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The New Deals

Managing The Modern Outsourcing Relationship

AN INTERNATIONAL DATA GROUP PUBLICATION

Swiss Bank Corp.'s
Craig Heimark



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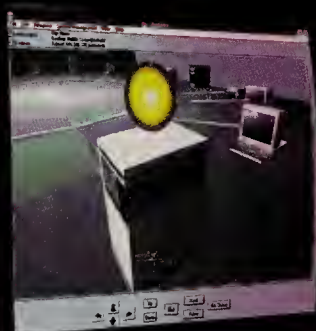
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Outsourcing In the '90s



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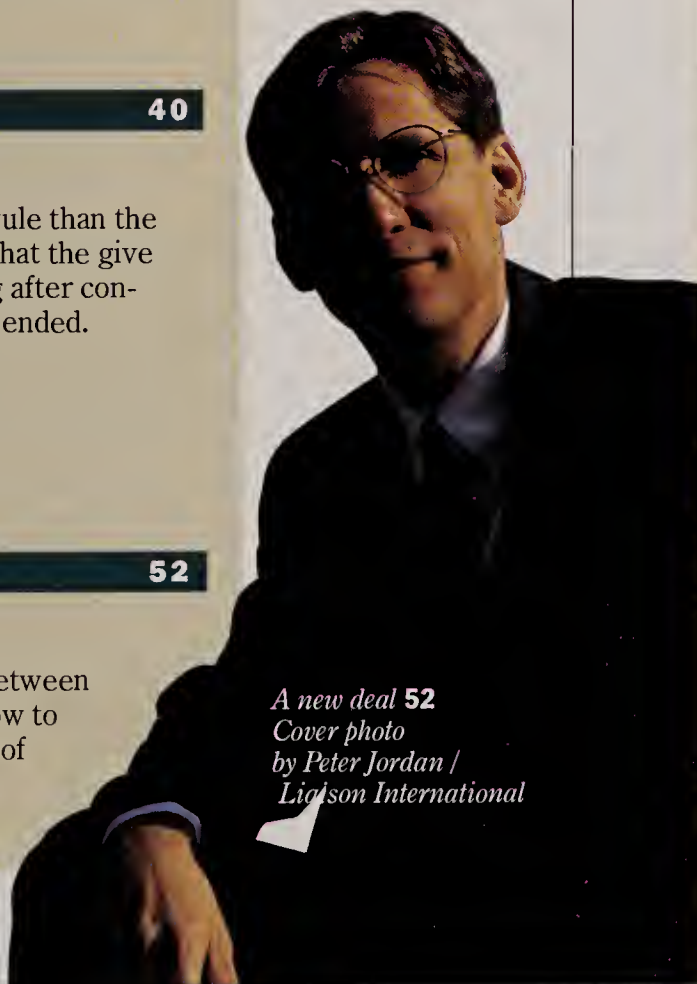
COVER STORY: The Odd Couple

An intriguing and innovative outsourcing deal between Swiss Bank and Perot Systems shows others how to think about the risks and rewards of a new kind of relationship.

By Carol Hildebrand



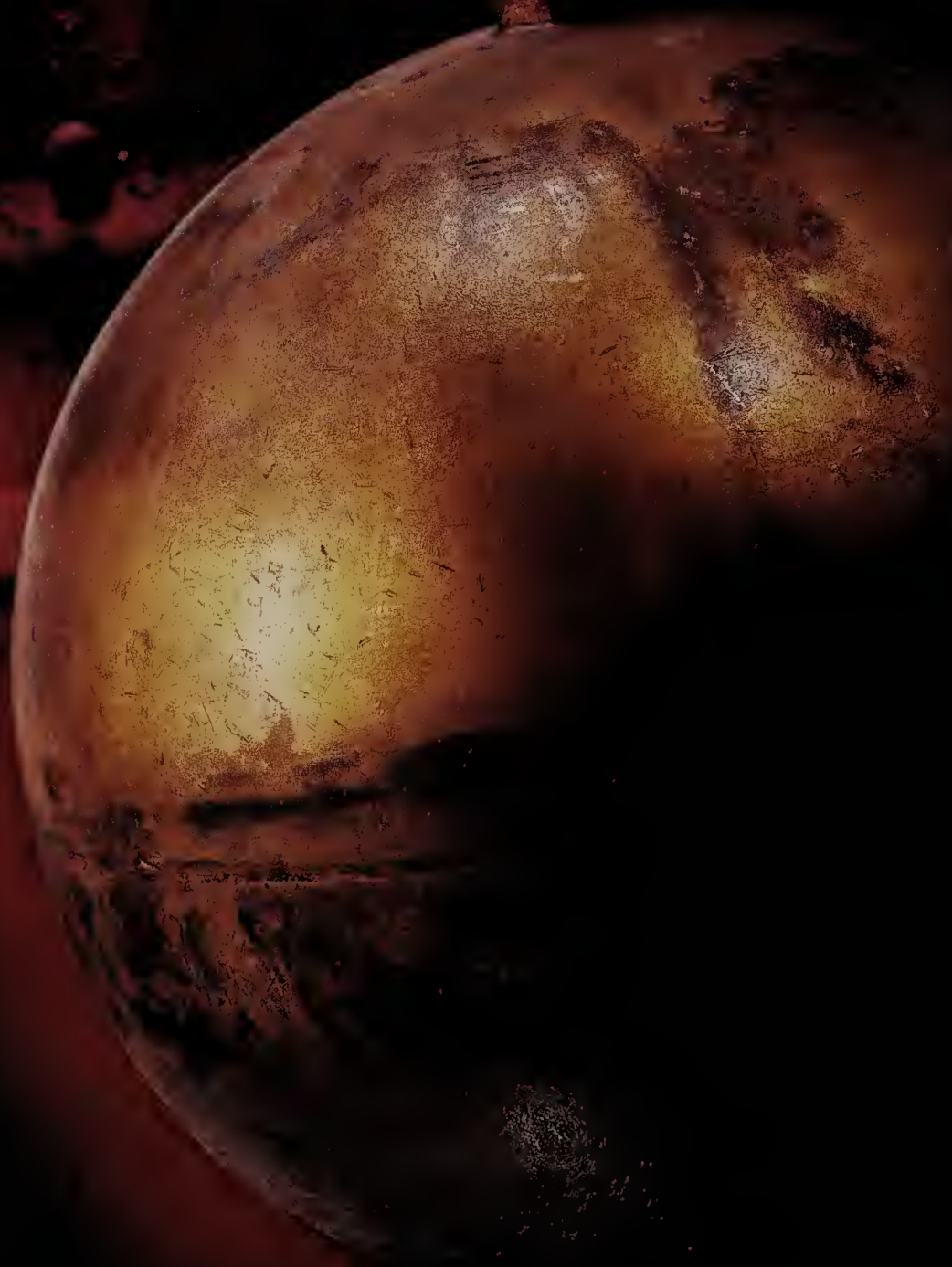
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by Peter Jordan /
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Microsoft

WHERE DO YOU WANT TO GO TODAY?™



Will the Internet bring an end to business computing as we know it?

Not at all. It will simply knock down the walls between users and the information they need.

What was once thought to be a lofty dream is about to come true: access to any fact or figure, at anytime, from any place. Happily, those who've begun the transition to client-server already have much of what they need in place. And to help businesses incorporate the Internet/intranet into their operations, Microsoft is integrating the necessary technology into many of its products — from desktop to server to tools.

For example, it's never been easier to connect desktops to the Internet. That's because both Microsoft® Windows® 95 and Windows NT® Workstation operating systems have all the "plumbing" built right in. Viewing content is just as effortless. With Microsoft Internet Explorer, users can browse the Internet (or internal corporate webs) whether they're working on the Windows platform or on the Macintosh.™

Of course, making web content easy to view is only the beginning. To be useful to organizations, content has to be easy to create, too. Which is why the latest generation of Microsoft Office applications, along with Internet Assistants, allow users to develop web content without programming. They simply save their work as HTML, the way they would any other document. Such ease-of-use also extends to the newest member of the Microsoft Office family, the Microsoft FrontPage™ web authoring tool, which lets users create and manage entire web sites, even if they've never so much as programmed a VCR.

The Internet is very much a part of our BackOffice™ family, too. With Microsoft Internet Information Server, we've extended the performance of Windows NT Server to make the ideal Internet platform. Now every organization can host and manage web content and applications securely and reliably. And, with Microsoft Exchange Server, secure and reliable e-mail is also a reality, whether it's traveling over the Internet or within your organization.

The truly interactive web page has arrived as well...and with it, full motion video, audio and moving text. Advances made possible by technologies like ActiveX™ controls, which let developers embed sound, video, and applications without having to learn new languages.

Yes, the walls are coming down, but it's not the end of business computing. Just the next, most practical evolution.

To learn more, or to download our free Internet products, visit <http://www.microsoft.com/internet/go1/>

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CIO'S WITH BIG SYSTEMS EITHER MAKE HISTORY... OR THEY ARE HISTORY.



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Forty-seven percent of CIOs with outsourcing deals more than two years old dubbed their experiences a "mixed bag," while 12 percent deemed them outright failures.

—1995 Gartner Group Inc. survey of 221 CIOs

Today outsourcing is an accepted part of most IS organizations' activities. If you're not doing some kind of outsourcing, you should probably ask yourself (and your staff and your executive committee) why not. We've devoted a significant portion of this issue of *CIO* to various aspects of outsourcing.

Lots of effort goes into working out the details of an outsourcing arrangement. The trouble starts when you begin to put those plans into action. Indeed, managing the relationship may be the most challenging part of your outsourcing activities. (Please see "The Art of the Deal," by Managing Editor Richard Pastore, on Page 40.)

But what happens when an arrangement doesn't deliver the required results? What recourse do you have? Prominent outsourcing lawyers John K. Halvey and Daniel R. Mummery explain how to renegotiate or exit a deal that's just not working out (see "Hanging Tough" on Page 26).

One of the more intriguing variations on the outsourcing theme is "co-sourcing," an arrangement in which two organizations share the risks and rewards equally. Senior Writer Carol Hildebrand explores Swiss Bank Corp. and Perot Systems Corp.'s approach to that phenomenon in "The Odd Couple" on Page 52.

One little-known secret of outsourcing is that most large-scale projects require multiple providers—even when a one-stop solution seems to be what you're buying. Given that reality, CIOs should consider serving as their own "general contractors." Otherwise, you may find you have a variety of outsourcers working on your projects without having any control over who they are or how they are handling your work. (Please see "The Outsourcing Paradox," by Stanley Goldman, on Page 34.)

We hope our outsourcing coverage provides insight into these complicated issues. Are there other aspects of the topic you'd like us to cover? Please send suggestions, comments or questions to me or any of the writers involved in this issue.

Editor
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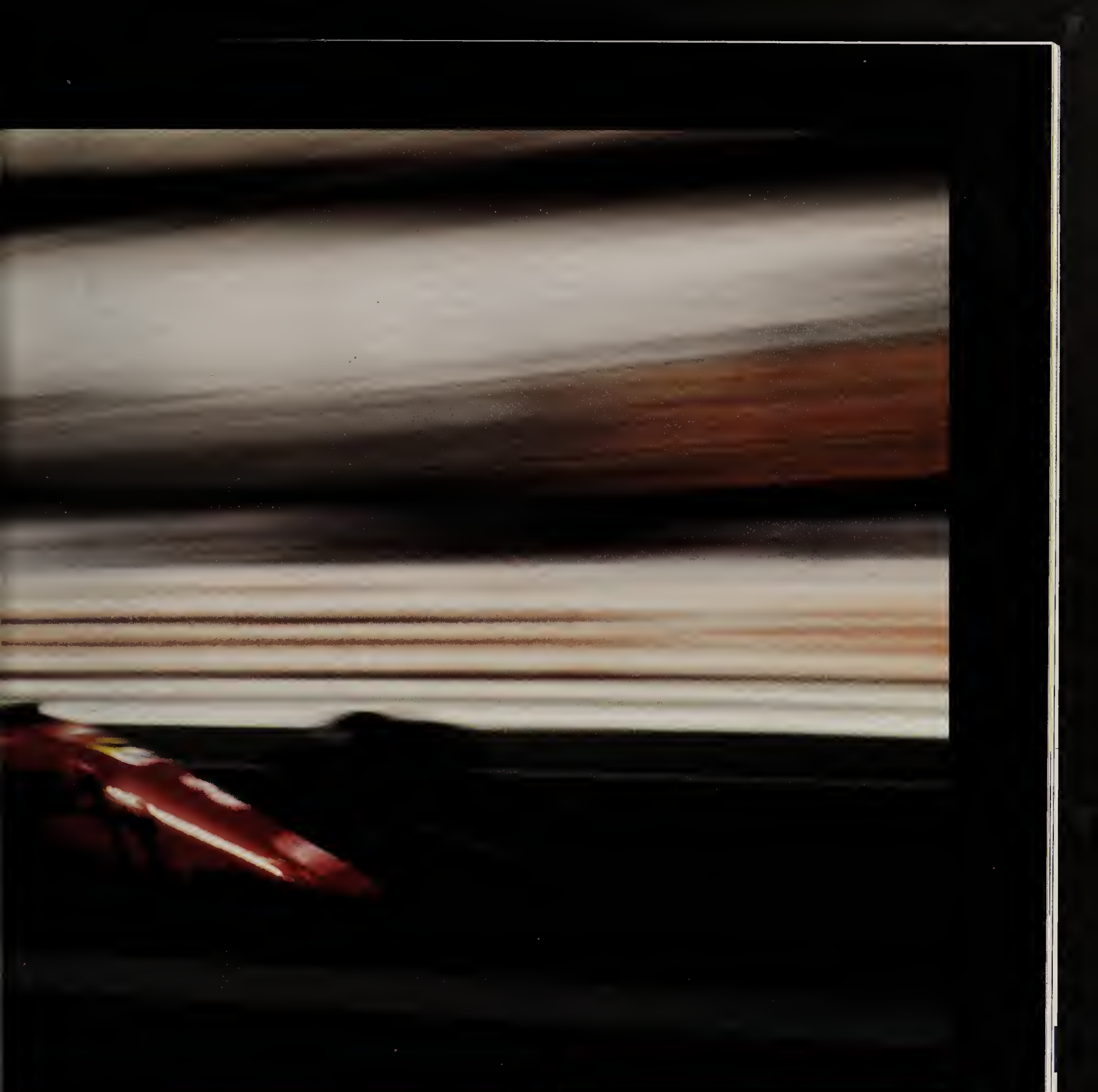


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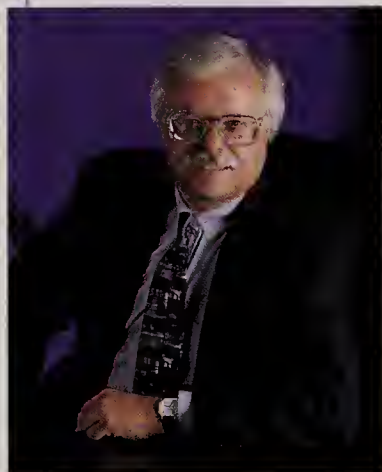
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"The problem is that many CIOs spend all their time with business strategy or technical competence and never get around to becoming a good project or department manager. That's death, essentially. You can excel in just one of them, but you'd better be damn good in the other two as well."

—Bill Herald
Director, Center for
Technology Enablement
Ernst & Young LLP

In the world of business, conflict is inevitable. High-powered executives disagree with the promotional ideas of a creative marketing team. R&D is at odds with manufacturing. And an energetic sales force wants more training and support than the diligent IS department can provide.

Such conflict can be frustrating. Differences in opinion cause problems that *can* lead to creative brainstorming sessions, but sometimes new approaches can in turn create new problems.

In the middle of difficulty lies opportunity. For example, CIOs have long struggled with getting others to see them as strategic managers. And although CIOs are trying to make information technology an integral part of business strategy, many executives still believe that IS is just a maintenance and service center. This is due in part to the fact that CIOs, themselves, are still focusing on the technical aspects of their work and ignoring their role as managers and leaders.

It's time to start changing general opinion. Staff Writer Jennifer Bresnahan's article "Mixed Messages" (see Page 78) explores the differing perceptions that colleagues and bosses have of their CIOs.

As CIOs, you must demonstrate to your bosses and peers that you know more about business strategy than they think you do. You're not just some hacker; you're a business strategist with a keen understanding of information technology who can and will make valuable contributions to the management team.

William L. Curry

P.S. The first WebMaster Perspectives conference will take place Aug. 11-14 at the Westin St. Francis Hotel in San Francisco. Meet and network with executives facing similar business challenges and opportunities and learn how to effectively conduct business for profit on the World Wide Web. For more information, please call 800 355-0246 or visit our Executive Programs pages on the Web at <http://www.cio.com/conferences/proghome.html>.

Coming In CIO

Under New Management

CIOs have a critical role to play in logistics—the practice of transporting and storing goods. What used to be a mundane operation is today at the heart of supply chain transformation. IT enables companies to reach ambitious logistics objectives. In most cases this requires cross-functional reengineering task forces of IS, supply chain, finance, manufacturing, and sales and marketing personnel. The success of those projects hinges on the involvement of the CIO.

Beyond the Buzzwords

You've learned about the theories behind benchmarking, knowledge management, customer satisfaction, learning organizations and outsourcing. And you've heard the hype that goes with them. *CIO* looks at the histories of these business concepts, how they work, what they promise, their drawbacks and pitfalls, and what you need to know to make them work.

End of the Line?

Retail banking is an industry beset by consolidation, deregulation and worldwide competition. And while potential customers browse the Web for the best deal, other industries are moving in on banking's traditional territory: Investment brokers own banks, auto makers issue credit cards and insurance companies sell annuities. IT investment will bring alliances with nonbanks, electronic money and the end of local branches—and perhaps eliminate the need for banks altogether.



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TRENDLINES

UNSOUND BITES

THE FUZZY TRUTH

Hard-nosed, cynical and sometimes downright mean, news reporters might not seem the type to be easily duped. But when the snake oil is technology, the media routinely falls prey to the slick sales pitch. Technology pranksters are increasingly relying on the media's ignorance of IT to engage in new forms of "culture jamming," or the attempt to shock people by jamming or manipulating mass media outlets such as advertising and news broadcasting.

This past fall, one Joseph Bonuso, who claimed to represent a team of attorneys and computer scientists, introduced to the media The Solomon Project, a supercomputer "virtual courtroom" that used artificial intelligence technology and the "wisdom of the ages" to retry famous criminal defendants. The project (which found O.J. Simpson guilty and Mike Tyson innocent) was a sensation with reporters, receiving coverage from *The New York Times*, *San Francisco Chronicle* and CNN, which also posted the story on its Web site.

The project's contrived foundation was "fuzzy logic," which computer cognoscenti know to be a system that adds gray to computational black and white, but which Bonuso described cheekily as "the decision of which factors are more important, not the quality of the thinking." "Bonuso"



really was Joey Skaggs, a notorious New York spoof artist whose quarter-century resume includes such infamous scams as Fish Condos and The Celebrity Sperm Bank. The Solomon Project, as publicized by CNN and other news organizations, included a room full of computers operated by a team of programmers and actors. After Skaggs ended the three-month hoax with a press release, CNN ran on-air and online corrections.

How did such venerated news organizations fall for such a prank? "People suspend critical thinking for wishful thinking," says Skaggs.

Other examples of jamming include the bogus Bob Dole for President World Wide Web page (<http://www.dole96.org>), which describes the "founder of the Dole Fruit Company" as the "ripe man" to be President, and the companion Buchanan for President page (<http://www.buchanan96.org>), which, with a swastika backdrop, offers links to various fascist organizations.

Historically, culture jammers have expressed themselves by faking news events, à la Skaggs, or by such stunts

as disrupting CNN's *Larry King Live*. Now the hoaxes are going hypertext, and some observers think Solomon is just the beginning. "Get used to stuff like this," says Michael Sippey at his Web-critical site, "Stating the Obvious" (<http://www.theobvious.com>). "The Net/Web—with its inherently open architecture, low entrance fee and

its 'instant-publishing' nature—is going to spawn much more complex culture jamming. Combine that with the fact that most print or television journalists don't have a clue when it comes to the Internet."

And although culture jamming ultimately embarrasses the mass media, the public generally responds favorably, Skaggs says.

"I get a lot of calls and letters, and they're usually really positive," Skaggs says. "People say the hoaxes reinforce their skepticism of the media."

Of course, there *are* those who don't get the joke.

"I just got a call from England," Skaggs says, "from a doctor who thinks [Solomon] is real and wants to talk with Bonuso and write a paper."

—Tom Field

AND THE WINNER IS, ER...WAS?

Too bad Leonardo da Vinci's mom isn't alive today. She would've been so proud. More than 450 years after his death, and after centuries of what amounts to a modest record of achievement and recognition, da Vinci finally hit the big time. In March, he and eight other people were inducted into the Automation Hall of Fame for breaking new ground in manufacturing and automation systems.

According to the Hall of Fame, a partnership of Carnegie Mellon University, Microsoft Corp., the Museum of Science and Industry in Chicago and seven other organizations, da Vinci was honored for his drawings articulating the basic principles in mechanical devices such as chain drives, gearing systems and screw drives.

A representative of the Italian Consulate General in Chicago accepted the award for da Vinci, who was unable to attend. ■

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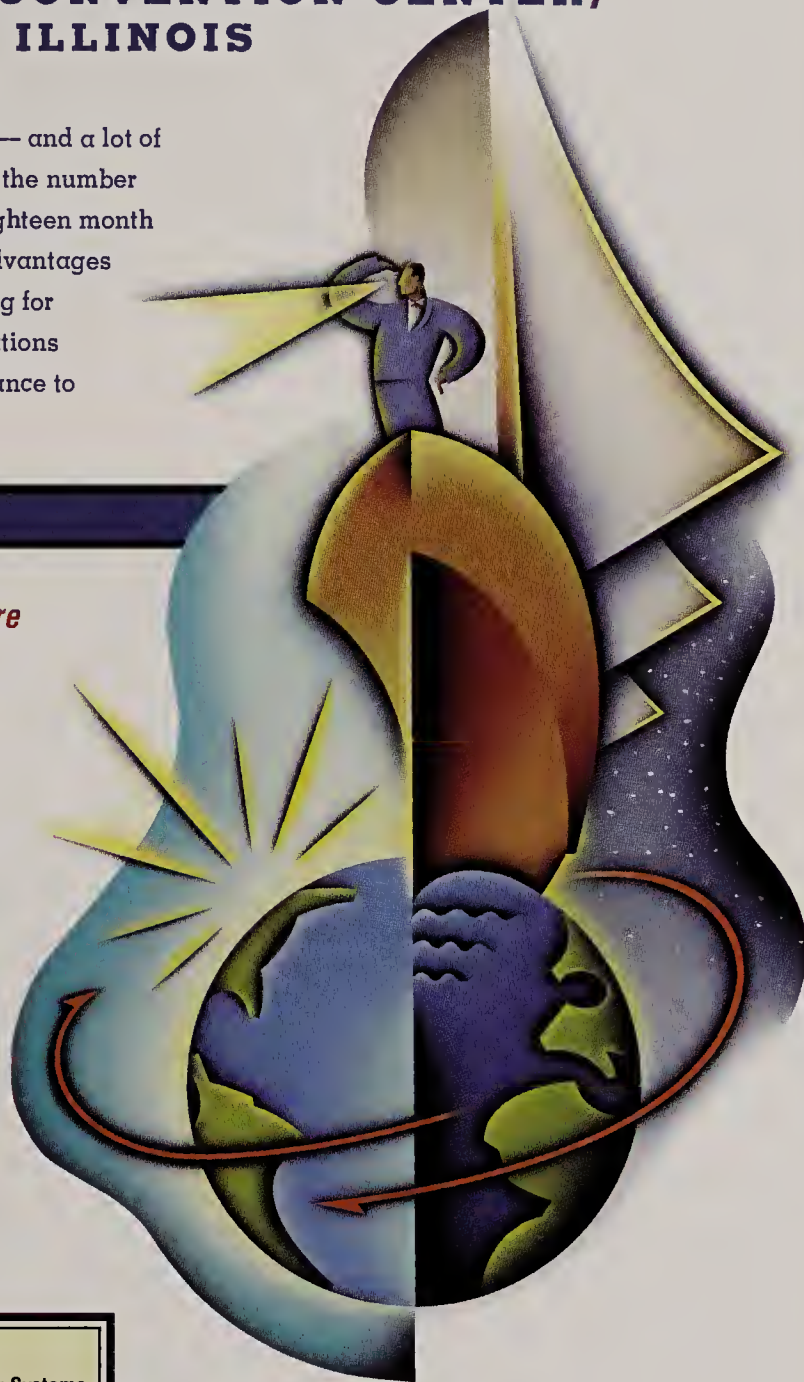
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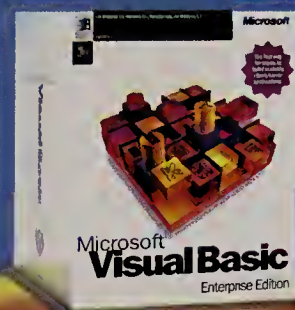
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TRENDLINES

BUDDY SYSTEM

BEHIND EVERY GOOD WOMAN IS A GOOD MENTOR

For women, finding good mentors within their own companies can be as rare and elusive as, well, finding a woman occupying a top slot at any company. The scarcity of the former (which contributes to the paucity of the latter) is the product of several dynamics in the workplace. Some women may find weaknesses difficult to confess to male supervisors, whom they feel will be quick to judge. Female supervisors may be reluctant to groom other women against whom they'll have to compete for positions in the elite business echelons. And even those



who are good at mentoring often do not have the time to do it.

"With all the reengineering and downsizing and cost cutting, managers simply do not have the time they once had to develop the people they supervise," says Jean Otte, founder and president of Women's Organization for Mentoring, Education and

Networking (WOMEN) Unlimited Inc. in Forest Hills, N.Y. "They have too many added responsibilities now for them to be one-on-one coaches and counselors."

These concerns inspired Otte to found WOMEN Unlimited in 1994 after she retired from a decades-long business career that included a stint as a corporate vice

president for National Car Rental System Inc. The mentoring program works like this: Companies pay \$3,000 for the year-long program for each protégé they enroll. Companies also recommend senior-level male or female managers from their organizations to serve as volunteer mentors. Participants receive monthly training sessions on topics including self-assessment, leadership skills and time management. They also meet with mentors two hours each month. Companies using WOMEN Unlimited include AT&T Wireless Services, Chemical Bank Corp., which recently merged with Chase Manhattan Corp., Colgate-Palmolive Co. and The Prudential Insurance Co. of America.

Liz Lappin, a program participant who works for Reuben H. Donnelley in Purchase, N.Y., says the program has enabled her to focus on her long-term career and demonstrated her company's support. "It has turned out to

GENERATION TECHS

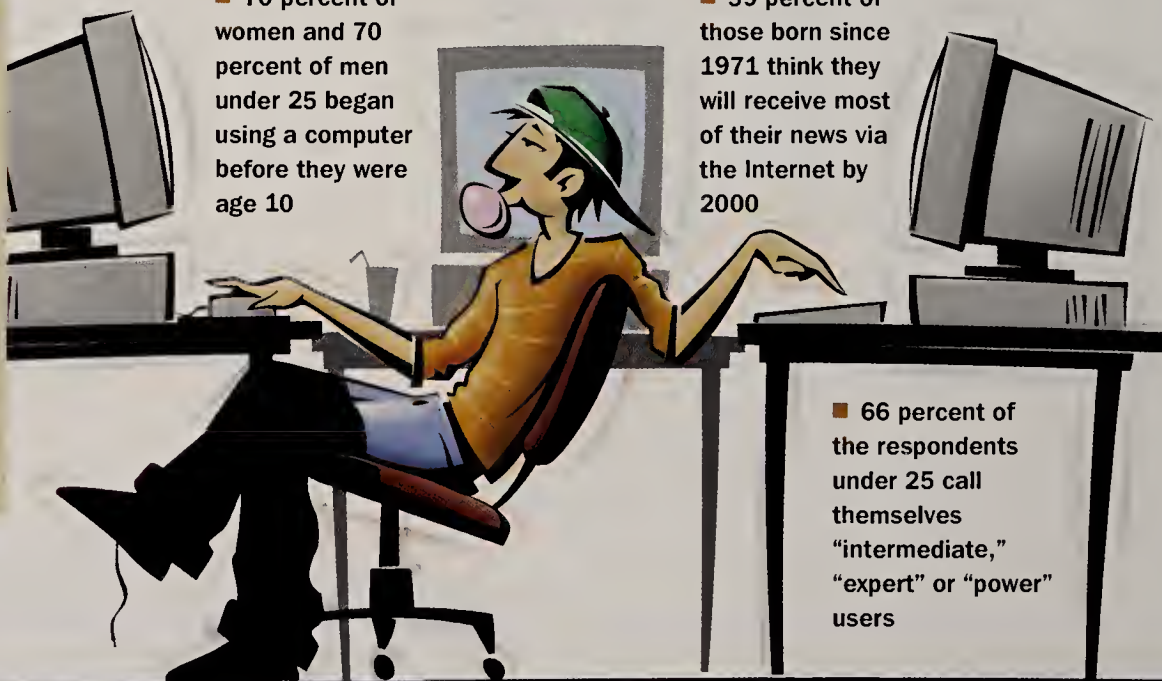
From an unscientific survey conducted by Custom Research Inc. in conjunction with the Smithsonian Institution's traveling exhibit, "America's Smithsonian." Almost 3,300 people responded to the survey at interactive kiosks in Los Angeles.

■ 72 percent of people under 25 have a PC at home

■ 70 percent of women and 70 percent of men under 25 began using a computer before they were age 10

■ 59 percent of those born since 1971 think they will receive most of their news via the Internet by 2000

■ 66 percent of the respondents under 25 call themselves "intermediate," "expert" or "power" users



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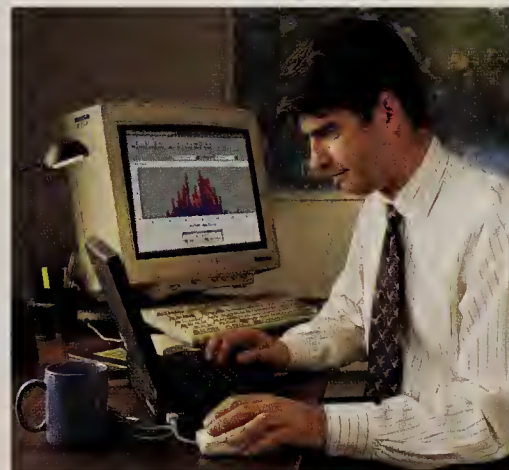
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TRENDLINES

be a great opportunity for self-development," says Lapin, a manager of financial planning for the information services department. "It was a compliment that they were willing to make the investment in me."

While most of Otte's clients are mid-level managers in the marketing or product arenas, she says that for women in IS, the difficulties of finding mentors may be more pronounced because there are fewer women in technical fields. She says she hopes the mentoring business will be part of a movement to funnel women into the top positions at corporations.

"This really is an opportunity to create a minor league of women ready to go up to the majors," she says.

For more information on WOMEN Unlimited, call 718 544-0267. —Cheryl Dahle

HOSPITAL SYSTEMS

A DOSE OF ACCURACY

The latest addition to the pharmacy staff at Atlanta's Piedmont Hospital goes by the nickname P2-D2, works upward of 16 hours a day and has never made a mistake.

P2-D2—short for Piedmont Pharmacy Dosage Dispenser—is the medical center's nickname for a robotic prescription-filling system.

Using bar-code technology, P2-D2 receives medication orders online, retrieves prepackaged doses of drugs and sends them to hospital patients.

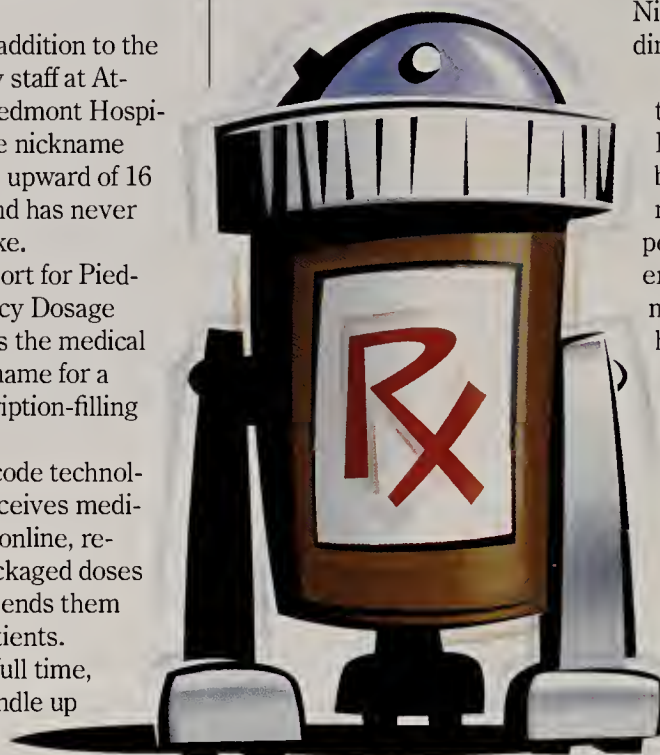
Operating full time, P2-D2 can handle up to 10,000

doses per day, far more than even the speediest human pharmacist. It can also store hundreds of different medications.

But it was neither speed nor storage capacity that prompted Piedmont officials to purchase the automated system. "Primarily, the attraction was accuracy," says Nina Montanaro, Piedmont's director of public affairs.

The system, manufactured by Automated Healthcare Inc. of Pittsburgh, under the brand name Rxrobot, has dispensed the proper drug every time—not only at Piedmont but at 46 other hospitals nationwide. As of April 1996, that record translated to more than 40 million doses without an error, according to Automated Healthcare.

Here's how it works: Pharmaceutical vendors provide drugs in packages, bar-coded with brand and generic names, expiration dates, lot numbers and other information.



NEITHER RAIN, NOR SLEET, NOR SHRINKING BANDWIDTH...

Sail mail no more?

That is the hope of the United States Postal Service, which is rushing to keep up with IT and private-sector competition.

"We've got a government that's open from nine to five serving customers who want access from five to nine," says Robert Reiser, vice president of the Postal Service's technology applications group, which is charged with forging IT into new postal uses.

E-mail, interactive kiosks and the World Wide Web are the focus of the group's efforts. The agency is developing technology to enable e-mail transmission with a new electronic postmark; access to postal and general governmental services through "Service to the Citizen" kiosks; hand delivery of printed e-mail to customers who cannot receive it electronically; and Internet access to local, state and federal government services through the Web Interactive Network of Government Services (WINGS).

Why the flurry of postal IT? It is, in part, a response to the federal government's National Information Infrastructure initiative, part

of which directed the Postal Service to explore new ways to provide citizens with electronic access to government information and services.

But bad business also is a good motivator. Postmaster General Marvin Runyon says that rising costs, shrinking volume and declining market share have forced the Postal Service to seek change—especially since net income is projected to drop from \$1.8 billion in 1995 to \$500 million this year.

"All around us, the world of communications is growing by leaps and bounds," Runyon told the nation's postmasters in February. "Electronic commerce is growing 20 percent a year, UPS overnight and two-day products showed double-digit growth last year; electronic messages grew 122 percent."

"The bottom line is this: Our best has got to get better," said Runyon.

For more information on the U.S. Postal Service's technology developments, check out its Web site at <http://www.usps.gov>.

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TRENDLINES

When a doctor prescribes a medication, the system's bar-code reader finds the correct package and a robotic arm picks it up and places it in a container coded with the patient's name and room number.

Piedmont installed the system in December 1995 as part of a pharmacy reengineering effort. Concerned about potential errors, hospital officials initially used P2-D2 only for refills or repeat orders. But as they came to trust its accuracy, they began sending in new orders as well. Plans also call for putting the robot druggist on duty around the clock, up from its current double shift, sometime this year.

Piedmont's pharmacists at first feared their silicon-brained colleague might automate them right out of their jobs. But Montanaro says there's plenty of work to go around. Pharmacists

must still double-check the automatically filled orders, wrap medications that vendors don't send in packages and manually dispense certain drugs the machine can't handle, such as those requiring refrigeration.

Also, assigning P2-D2 the grunt work frees pharmacists for other duties directly linked to improving patient care. "It allows pharmacists...to be up on the hospital floors interacting with the physicians and nurses, patients and their families," Montanaro says. In talking with a physician, for example, a pharmacist might suggest a new

medication that could speed a patient's recovery—a conversation unlikely to happen in the old days, when hospital druggists rarely ventured out of their pharmacies and doctors spent little time in them.

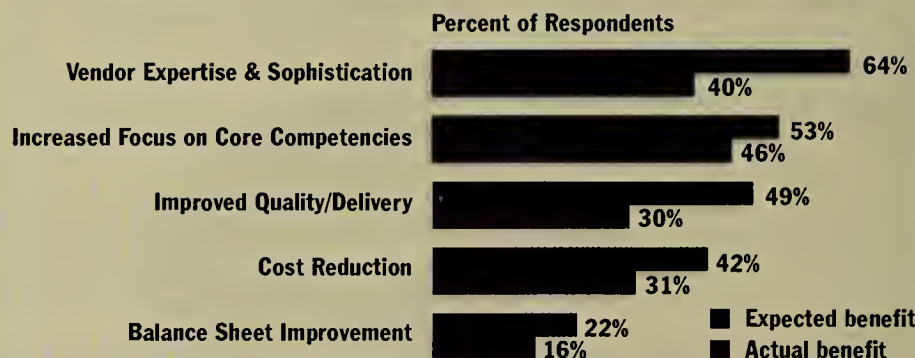
That's helped endear P2-D2 to Piedmont's staff: "He's part of the family now," Montanaro says.

Although it's too early for the Atlanta hospital to calculate bottom-line benefits, Automated Healthcare says longer-term customers have, on average, saved or redeployed the equivalent of six to eight full-time workers, reduced inventory by 15 percent and seen a two-year return on investment.

—Anne Stuart

Reality Check

Expected versus Actual Benefits from Outsourcing



SOURCE: 1995 DELOITTE & TOUCHE CONSULTING GROUP CIO SURVEY

GOOD SAMARITANS ON THE SUPERHIGHWAY

While the supposed evils of the Internet and its ability to corrupt children, otherwise productive workers and flavor-of-the-day victims continue to grab headlines, its good deeds go largely unacknowledged.

Consider the life-improving potential of this Internet application: The National Federation of the Blind (NFB) in Baltimore has established a network of dedicated computers that convert the full text of several daily newspapers into digitally synthesized speech that blind and visually impaired people can access by telephone.

By applying customized text-to-speech software to the full texts of all articles in *The New York Times*, the *Chicago Tribune*

and *USA Today* downloaded from electronic bulletin boards and the Internet, the NFB's Newsline distributes text files to centers in Bal-

timore, Baton Rouge, La., Minneapolis and Austin, Texas. John Chrisman, network administrator for the NFB, says Houston has been online since April, and 100 cities are qualified for addition by next year.

Local services can establish a four-line distribution center for \$18,000, a 12-line system for \$24,000 and a 24-line service for \$30,000. There's also a \$12,000 annual newspaper service fee, and local newspaper service costs extra. For more information, call the National Federation of the Blind at 410 659-9314.



Mike wants to upgrade his company to Lotus Notes Release 4.

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a) 4 b) 8 c) 12

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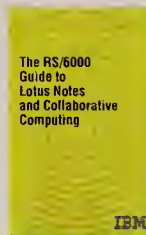
By consolidating your existing servers with the UNIX®-based RS/6000 server, you can take on more users without bringing

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Outsourcing In the '90s

Hanging Tough

Whether to renegotiate or terminate that aging outsourcing contract is the question. The answer? Maybe. But either way, you'll need to plan carefully and proceed cautiously before confronting the vendor.

BY JOHN K. HALVEY AND
DANIEL R. MUMMERY

Once a remedy only for financially troubled companies, agreements to outsource all or significant portions of a company's IT functions are becoming a core business strategy for virtually every Fortune 500 company in the United States. Great strides have been made in increasing the sophistication of these transactions from a financial, technical and legal perspective. So it's not surprising that, as earlier outsourcing deals mature and the business climate in which they were conceived and implemented changes, many customers are reexamining their outsourcing agreements and discovering the need to renegotiate—or in some cases, terminate—them.

Companies preparing to alter existing contracts should think carefully

about refitting the underlying economics, the technical scope and the legal framework of the deal. Myriad issues and numerous contingencies must be considered *prior* to initiating a discussion with the vendor.

Companies typically seek to renegotiate or terminate their arrangements for a variety of reasons. Sometimes the agreement is due to expire and a company simply has no need to continue the relationship. In some cases, the vendor may have performed poorly, and the company is eager to cut its losses. Perhaps the company is experiencing new management with a new vision, or the core business of the company has changed fundamentally. In other instances a company may be willing to terminate a contract because the costs associated with termination no longer seem prohibitive.

This article approaches the issues of renegotiation or termination from the perspective of the customer and not the vendor, and although many issues may be germane to both sides of the transaction, care should be taken to apply these suggestions to the particular circumstances.

IT for Two

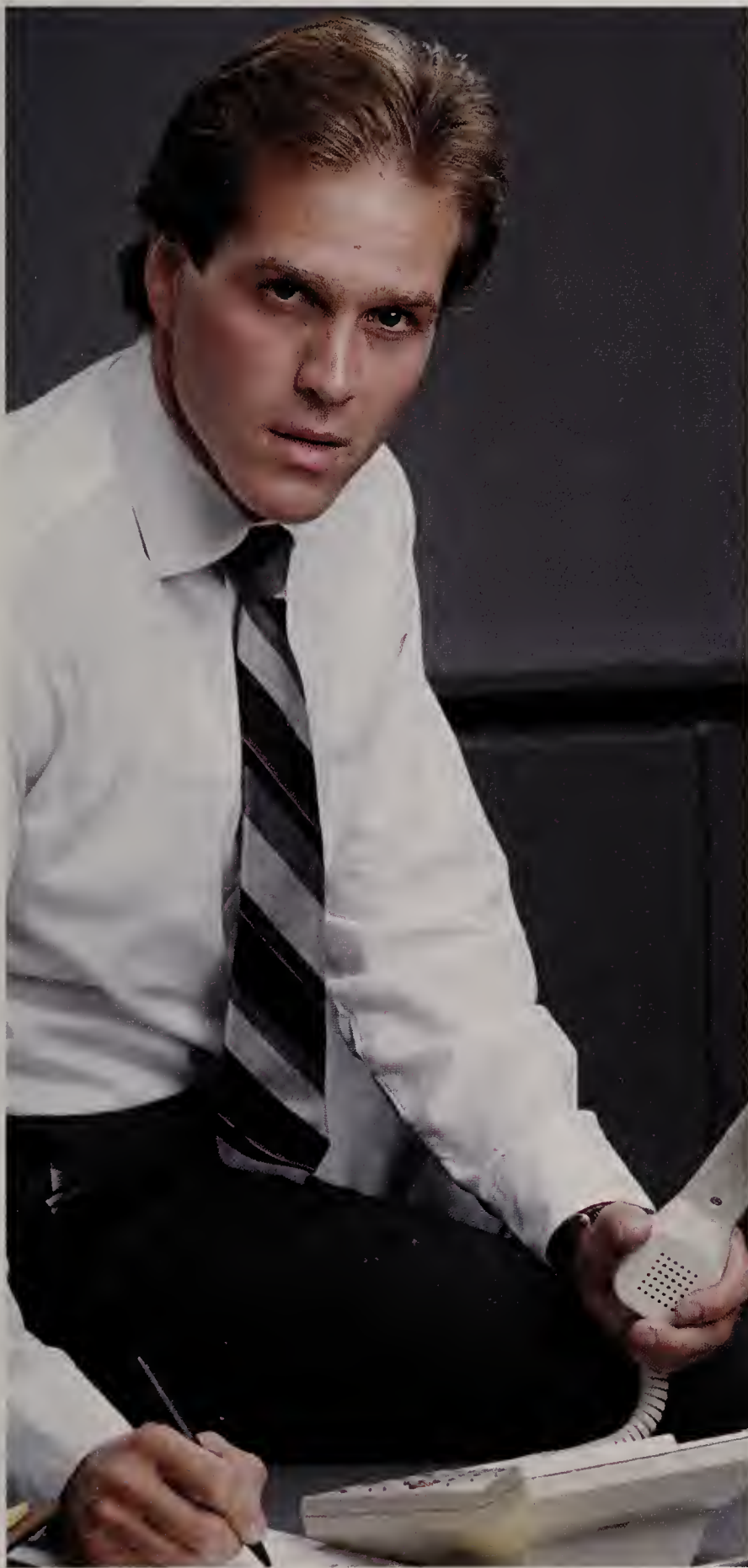
When choosing to renegotiate an outsourcing agreement, a company must plan carefully and proceed cautiously. The renegotiating team—which should include business managers and lawyers—should thoroughly review the contract before any renegotiation discussions with the vendor take place.

In its review, the team should first determine its company's rights to compel a renegotiation under the agreement. It should attempt to identify and quantify noncontractual leverage points such as documented incidents of poor performance.

The team should also conduct a



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Outsourcing

In the '90s

Companies typically seek to renegotiate or terminate their arrangements for one or more of the following reasons:

- The agreement is due to expire
- The vendor has performed poorly
- The company has new management
- The core business of the company has changed fundamentally
- The technology has changed
- The company wants to recapture the dissipating "magic" of the relationship
- Termination costs no longer seem prohibitive

careful review of the customer's files and records with respect to the outsourcing transaction. Finding any "smoking guns" (such as a memo admitting that the customer failed to perform) or "sweetheart letters" (such as one praising the vendor's project executive for his or her work) is critical; they could undermine any leverage the customer may have, particularly if the renegotiation is predicated on an allegation of poor vendor performance.

An essential next step is articulating the primary objectives behind a decision to modify the agreement. Of course, the ultimate goal of each party in any negotiation should be improving the relationship. That is typically a matter of give and take unless one party's position under the agreement is so clearly favorable that the renegotiation is in essence a form of remedy.

Beyond improving the relationship, the most common goal for a company is reducing its costs. In addition, some companies hope to gain more flexibility and increase control over the relationship by designating certain key vendor personnel to handle the account; others look to renegotiate for

more extensive termination rights with minimal penalties in case substantial changes in the company's business occur or a vendor fails to provide critical services.

The objectives for renegotiating will determine the process: If the primary objective is to lower costs, the renegotiating team might think about including benchmarking or technology indexing rights instead of looking for key personnel provisions. On the other hand, if the principal goal is to address the vendor's poor performance, the team should focus on implementing a fee structure to motivate the vendor.

The team's most important task, however, is understanding and analyzing worst-case scenarios. Any renegotiation could, at least in theory, result in permanent damage to the parties' relationship. Accordingly, the company's negotiating team must consider the practical effects of a failed renegotiation. If it determines that the potential damage from failure outweighs the potential benefits of

Let's Call the Whole Thing Off

Obviously, choosing to terminate an outsourcing agreement is not an easy decision. As with renegotiation, it requires careful preparation and planning.

The team should start by creating an action plan that includes steps for management to follow to ensure that they will act consistently when dealing with the vendor. The list should include a comprehensive assessment of all the functions, duties and support for which the vendor will be responsible.

Much of that information can be found in the outsourcing agreement, but it may also be located in amendments, additional service orders and change order requests. Changes or additional services were likely agreed to without a written request.

Companies should document the relationship between the customer and vendor with a paper trail that notes every service failure and grievance the company has had with the vendor and detailing when the

Companies preparing to alter existing contracts should think carefully about refitting the underlying economics, the technical scope and the legal framework of the deal.

success, management may want to reconsider changing the contract.

Finally, the customer should anticipate and be prepared to deal with conflict, regardless of the relative bargaining positions of the parties. Such conflict, which need not result in an acrimonious relationship if handled properly, is the logical by-product of attempting to restructure any partnership.

As a result, the team should consider whether the people involved in the negotiations should be the same ones who will implement the restructured relationship. Ideally, the lead negotiator should be someone who will not have direct, day-to-day responsibility for the new contract.

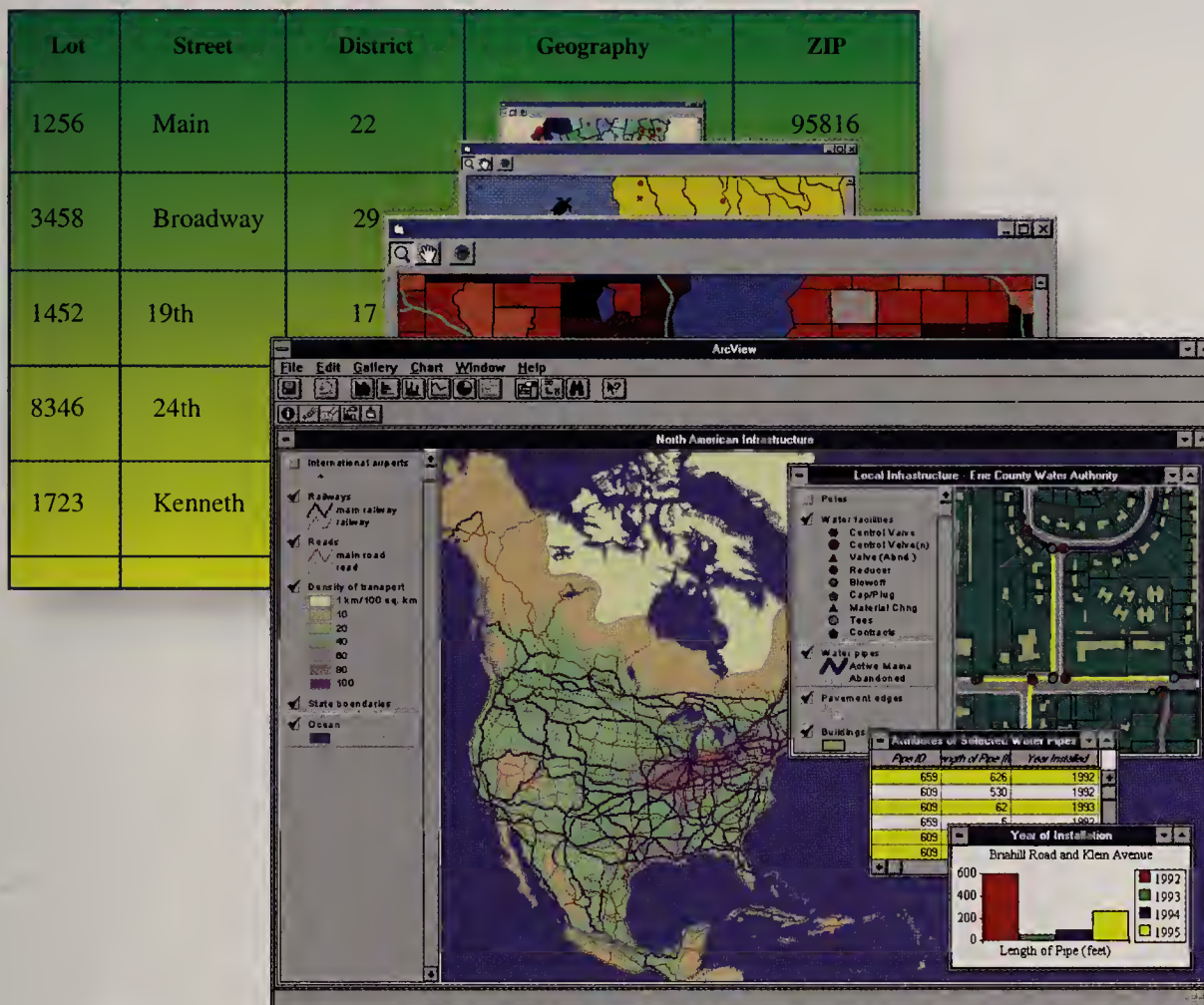
grievance arose and how it was handled. One person should be designated as the keeper of all information. Copies should *not* be shown to the vendor without the approval of the IT team.

Maintaining the confidentiality of its process and strategy is critical to the company's ability to evaluate the vendor relationship and identify the appropriate course of action. The company should identify a dedicated or secure fax line or require that all correspondence be sent via courier. In addition, official discussions about the relationship and issues related to it should be restricted to the IT team and other designated people.

Also, the team must assess the ex-

Spatial Integration

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Outsourcing

In the '90s

tent to which it has—or would have—access to its data, software, documentation and tools used to provide the services. Do the vendor's key employees have critical institutional knowledge of the company? Can they be replaced? Do they have knowledge that can be used against the customer?

As part of the action list, the team should prepare an inventory of the

such options can be evaluated against the customer's existing budget to determine if a transition is financially feasible.

Throughout the decision process, the team must address and focus on whether the company can operate without the support of the vendor. It's important, therefore, to address several issues before making the decision to terminate.

Throughout the decision process, the team must address and remain focused on the singular issue of whether the company can operate without the support of the vendor.

hardware and software used and then determine which can easily be substituted or replaced and which cannot. Does the vendor use proprietary systems that would be difficult to replace?

Defining backup and alternate support measures will ensure that a company's systems can still operate if the vendor shuts down critical services in response to the termination. While investigating those options, the team should identify and prepare a list of specific vendors that can furnish the services the vendor currently provides. However, companies should consider the willingness of other vendors to get involved in a dispute with the existing vendor. (Spurned vendors are notorious for threatening replacement vendors with legal action).

Once the list is complete, the team can determine which services can easily be provided by another vendor and which can be performed in-house. The team should categorize those functions as critical or noncritical so that services can be prioritized.

Some services may be difficult to switch but could tolerate a moderate disruption. Others might be impossible to change without an unacceptable disruption of service or prohibitive increase in cost.

After potential vendors or in-house alternatives are identified, the cost of

For example, what services are critical to the company's IT operations? The staff should be ready to provide the same services the vendor had supplied. They must also assess which individual departments can sur-

Can your company operate without the support of its outsourcing vendor? To determine that, it should answer the following questions:

- What services are critical?
- To what extent can the IT staff supply the same services the vendor has provided?
- Can individual departments survive without certain functions for a period of time?
- Can the company access its data and critical object and source code? If so, how?
- Will the vendor be able to gain leverage in the dispute by withholding the company's data? If so, how can that be avoided?

vive without certain functions for a period of time and how the company will access its data and critical object and source code during the transition. The vendor is sometimes able to gain leverage in the dispute by withholding the company's data. If so, the IT staff should determine how that could be avoided.

Eventually, the team must evaluate the risks and benefits of terminating the relationship with the vendor. The increased cost, for example, may outweigh potential improvements in service. The risk-benefit analysis should also include best- and worst-case scenarios. It may be useful to develop a model transition plan to describe what those scenarios would look like.

With the help of the action plan, the company can decide whether it should begin the termination process and, if so, when the process should commence. The team should anticipate resistance and expect delays in effecting a termination process regardless of the circumstances and the relative bargaining position of either party. The vendor will likely have taken steps to protect its rights and will be more prepared to respond to such an action if apprehensive messages are sent by the company.

Be Prepared

Finally, it's important to remember that the pendulum swings both ways: Companies should be prepared for vendors to seek to renegotiate or terminate arrangements because the deal they entered into several years ago is no longer as compelling to them. The decision to renegotiate or terminate a contract is rarely prompted by the vendor, but if a company takes steps to be prudent and perceptive, it will undoubtedly be better prepared for any outcome. **CIO**

John K. Halvey and Daniel R. Mummery are attorneys based in New York in the Business Technology Group of Milbank, Tweed, Hadley & McCloy, an international law firm. They can be reached via e-mail at jhalvey@milbank.com or at dmummery@milbank.com.

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Outsourcing In the '90s

The Provider Paradox

IS managers cling to the notion that "one-stop shopping" will maximize control of their outsourcing projects only to discover that the vendor itself may be ceding control

BY STANLEY GOLDMAN

Looking for a totally integrated, end-to-end solution for your company's information technology needs? You're not alone. Many IS managers are searching for better ways to maximize savings, increase productivity or deal with technology that is fast becoming too complex and requires a wide set of skills to implement.

Some turn to outsourcing for all or just a portion of their IT projects. Although this growing trend enables companies to consolidate costs while taking advantage of the expertise of specialty vendors, outsourcing is not always a cure-all. Outsourcing vendors, pushed to provide specific solutions-oriented services with over-committed staffs, are straining to learn and apply the new technologies in the midst of a scarcity of leading-edge technical resources. In addition, demand for new technologies are forcing top providers to offer "bleeding edge" services—always a risky and costly proposition.

To fulfill certain outsourcing obligations, some vendors may compartmentalize and offload entire functions to internal units. It's not

unusual, for example, for a client to see its data center operations handled by a Southeastern facility, its network operations by a Texas megacenter, its application development by an East Coast consulting subsidiary and its legacy maintenance by a unit in California.

Sometimes, a vendor may actually subcontract part of the awarded function—often

specialized application projects or various components of network maintenance—to another vendor. Unfortunately, most clients are unaware that their services are being given to outsiders. They are not always informed of the strategy prior to actual implementation; it's not in the outsourcing vendor's best short-term interest to create an air of uncertainty regarding its ability to deliver on contracted terms, and most would claim such a practice is simply asset management, using either internal or external resources available to them.

IS managers are beginning to recognize the paradox they face: Their desire to maximize control by working with only one outsourcing vendor may actually lead to a reduction in control and possibly lower service levels when the vendor subcontracts pieces of the project to outsiders. Searching for a solution to this paradox, some managers are forsaking the "one-stop shopping" approach in favor of subcontracting the project themselves to a consortium of separate "best-of-breed" vendors.

In response, vendors may argue that, for IT staffs, managing such a group is an unwieldy proposition because it sets up the potential for ongoing dispute arbitration and for lack of accountability. (On the other hand, IS managers could, in turn, reasonably wonder why those vendors engage in virtually the same practice themselves.)

The answer to the outsourcing paradox lies in understanding what your company wants to achieve. To truly gain control over the process, IS managers must first develop a thorough business case for outsourcing. They must analyze the corporate business plan to determine which IS functions are strategic and which are not. When they have clearly defined what is to be accomplished and by



Meeting the Challenge of Client-Server Computing

Maximizing Return-on-Investment of Network Computing

The migration to client-server computing is affecting organizations both large and small almost everywhere on the planet. Computer users today have extensive access to global network-based resources, including communication gateways to other companies, individuals, and markets worldwide. Signs of this connectedness abound:

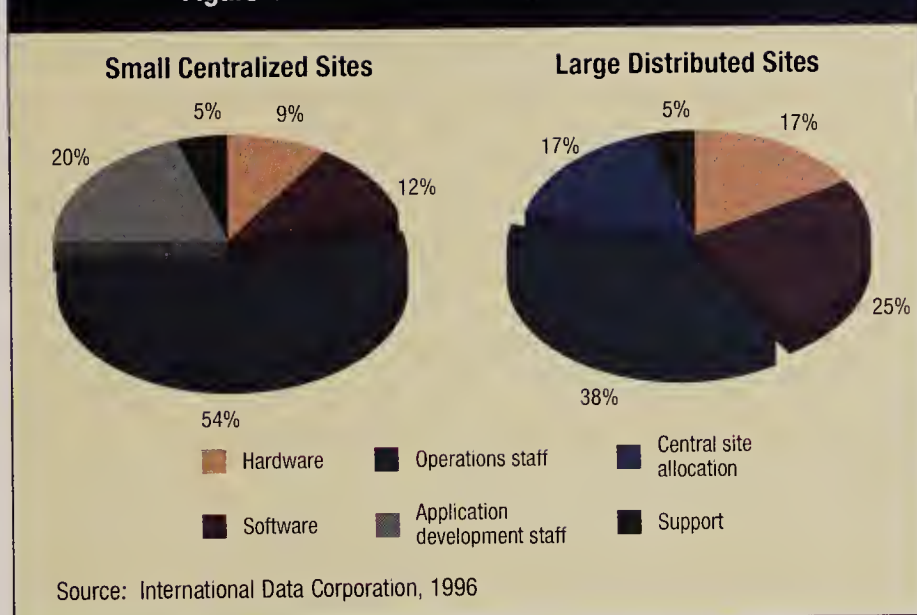
- Last year the number of LAN users worldwide hit nearly 100 million, double the number in 1993. By 1999 the number will double again
- In the same year the number of people in the world with electronic mail boxes topped 40 million. By 1999 the number will be over 125 million
- Groupware users numbered over 30 million worldwide by the end of 1995; by 1999 they will number over 250 million

So we are heading for a wired workplace, a wired marketplace, even a wired society. However, there is a price to be paid for all this connectivity. The nearly universal implementation of client-server systems requires living with new levels of complexity and new hardware and software that people must be trained to use. Moreover, highly skilled personnel must be hired to install, manage, maintain, and administer these far-flung networks. The result is that staffing costs have become the largest contributor to total networked computing costs, regardless of the size of the installation (see Figure 1).

Until now, companies have justified the costs and complexities of client-server computing by competitive advantage—it is a very flexible and adaptable computing style. But when client-server is the norm, where will the competitive advantage lie?

IDC believes that companies that learn to manage their networked resources through technology and training will win out over their peers in the long run. Companies that understand the true costs and true benefits of client-server computing

Figure 1 — The Hidden Costs of Client-Server



will generate quicker return for their investments. Companies that relentlessly optimize, integrate, and upgrade existing systems will stretch IT resources further and be able to reinvest sooner than competitors taking a wait-and-see approach.

Areas of Opportunity

IDC and Novell have teamed to produce this White Paper in order to help IT managers develop a strategy for maximizing return on investment in networked computing resources. It is the executive overview of three studies researched and written by IDC and sponsored by Novell. In the research it conducted,

Driving Down Networking Costs

GroupWise:

Typical annual return-per-user of 334%

Nearly \$400,000 a year saved in phone costs at Farmland Foods

Courier costs cut \$16,000 a year at Sheppard, Mullin, Richter & Hampton

NetWare 4:

On average 15% less expensive than NT Server from Microsoft

50% increase in users supported by a single server

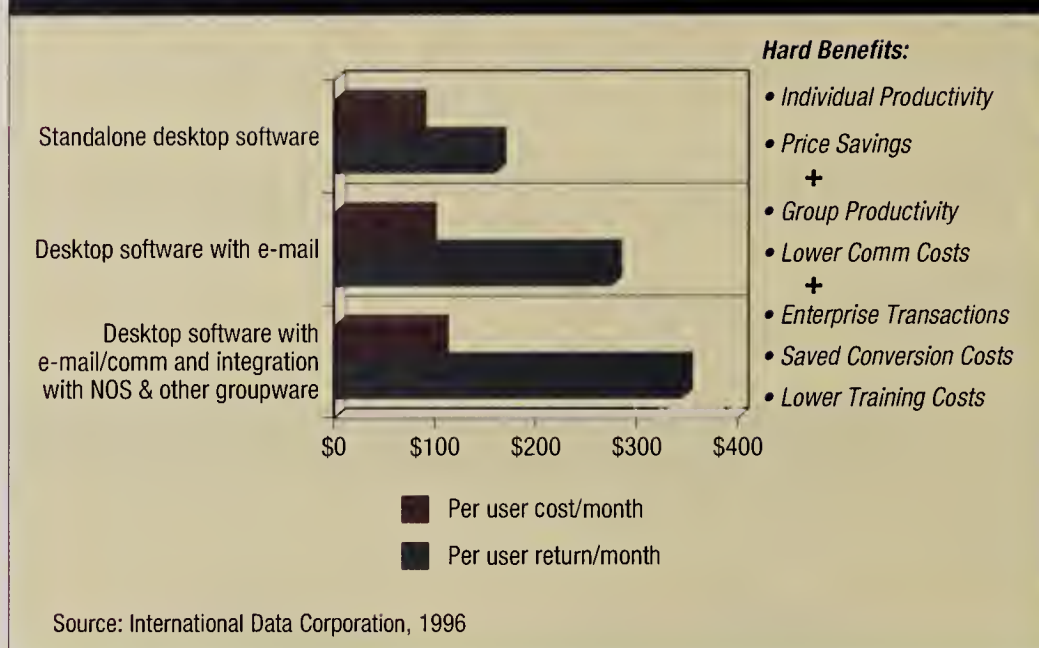
ManageWise:

\$95,784 savings in business efficiency per 100 users

50% reduction in network downtime

19.7 day payback

Figure 2 — The Investment Leverage from Groupware



IDC found three areas of networked computing that are focal points for ROI leverage:

1. The choice and use of communication applications such as e-mail and groupware
2. The choice and use of next-generation network operating systems
3. The use of advanced network and system management tools

In addition, IDC found that when products in support of all three of these areas work together in an integrated fashion—such as Novell's GroupWise, NetWare 4.1, and ManageWise products—benefits are compounded. Support and training costs are lower, conversions and upgrades occur faster, applications come on stream sooner, and downtime is reduced.

Applications for the Next Wave

The migration to client-server computing is a quest to provide users with access to information and computer resources beyond their desks. One of the key tools for this is groupware software, epitomized by Novell's GroupWise, software which integrates e-mail with scheduling, calendaring, and other workgroup oriented functions. The market for groupware is exploding as organizations find they can use it—specifically the e-mail function—as a platform for providing workgroup and even enterprise-wide access to information and resources.

In the research IDC conducted, almost half of the business benefits organizations received from migrating to groupware came from better internal and external communications. For instance, Farmland Foods, a \$2 billion dollar meat processing company, found that since installing GroupWise, documents once faxed in 15 minutes now take less than five to e-mail. Further, the use of GroupWise saved almost \$400,000 in voice phone calls a year.

Figure 2 illustrates how electronic communication and collaboration generate cascading benefits. Standalone desktop software can impact individual productivity, but when combined with e-mail, that software can improve the productivity of a whole workgroup, not just the individual user. If the e-mail is specifically designed to work with the desktop software and with the network software, as say Novell's GroupWise is with NetWare 4.1, then those workgroup benefits are compounded.

This efficiency pays real dividends. When Sheppard, Mullin, Richter & Hampton, a Los Angeles law firm, made the move to GroupWise it found the support ratio for lawyers dropped from one assistant for every two lawyers to one for every three. GroupWise scheduling cut countless hours in tasks as routine as setting up meetings; GroupWise e-mail cut courier costs by \$16,000 a year.

For most companies, an investment in groupware is considered an incremental cost. The hardware is already in place, as is the network. Moreover, the support costs—which account for more than 50% of the cost of operating a networked PC—are shared across dozens of applications.

But even with all the hardware, network, and support costs amortized across the groupware software, it's a bargain. IDC's research with Novell's GroupWise customers found that a typical installation required only about \$250 in fully-loaded first-year costs—less than 5% of the annual cost of operating and supporting an end-user personal computer.

For that \$250 investment, those same GroupWise customers found that their first-year return was over \$800 on lowered communication and clerical costs alone. Meanwhile, they accrued an array of other concrete benefits, such as fewer meetings (and thus less travel and meeting administration), easier document handling, and so on. For every single GroupWise customer interviewed by IDC, return-on-investment exceeded expectations.

Modernizing the Network

If the LAN is the heart of client-server computing, then the network operating system is its soul. As LANs have evolved from peripheral information systems to the primary components of mission-critical systems, they have become more robust and more scalable. Along the way they have also provided IS personnel with the tools to manage network resources as never before.

In fact, powerful new management capabilities are why many people are migrating to NetWare 4.1. With more than 375,000

licenses installed worldwide as of 1995, it is the most popular network operating system. Three key reasons for its popularity are:

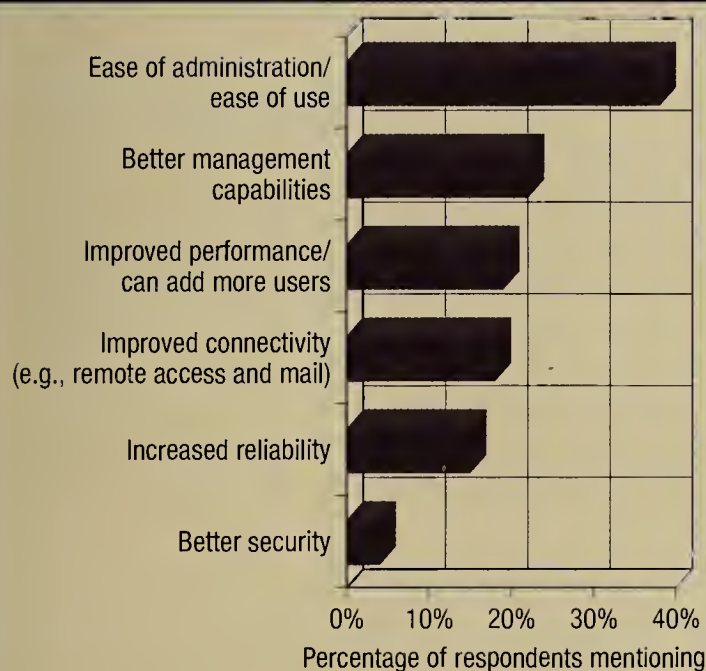
- Greater functionality
- Improved management
- Directory services

Figure 3 illustrates how survey respondents believe migrating to NetWare 4.1 has enhanced network productivity—with ease of administration at the top of the list, mentioned by nearly 40% of respondents. NetWare 4.1's greater functionality has promoted companies' reliance on LANs and delivered on the ultimate promise of client-server—increased productivity.

According to recent surveys conducted by IDC, LAN managers report remarkable improvements in managing their networks under NetWare 4.1. Although they expected the number of nodes on their networks to grow by 260% in the 12 months following installation, they anticipated the number of file servers on the network would grow by only 163%. In other words, under NetWare 4.1, they expect to increase the ratio of users per server from 41 to 60—an improvement of 50%.

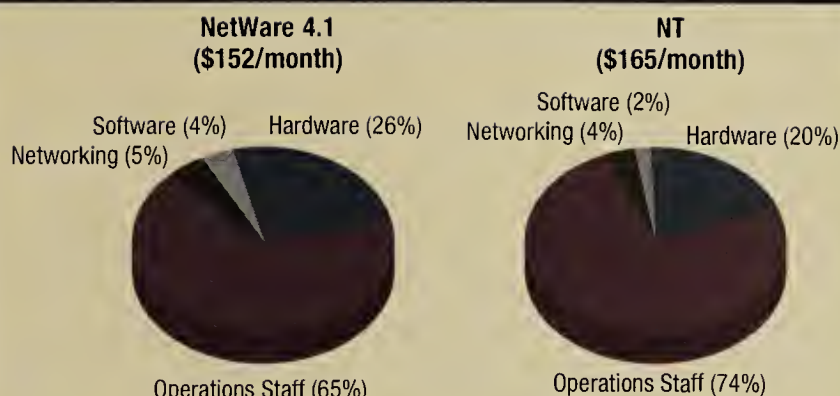
In addition to increasing the number of users per server, NetWare 4.1 provides a single point of administration with Novell Directory Services (NDS) that results in a lower cost of network administration. Figure 4 shows how, in medium-sized

Figure 3 — How NetWare 4.1 Improves Network Productivity



Source: International Data Corporation, 1996

Figure 4 — Network Cost-to-Use at Medium (300 User) Sites (Costs After Migrating from NetWare 3.X)



Source: International Data Corporation, 1996

sites, NetWare 4.1 generates 14% lower network administration costs than Microsoft NT, primarily by increasing the user to support staff ratio.

Novell and other networking companies have set their sights on developing new technologies that will make tomorrow's networks more efficient and flexible. Novell has developed a Smart Global Network strategy, which entails making the network available to anyone—anytime, anywhere. An essential component of the Smart Global Network is Novell Directory Services (NDS), which enables companies to keep track of and connect all of a network's users, workgroups, hardware and software on one common access and administrative framework. NDS provides directory services technology that can handle the management of countless resources on heterogeneous systems spread around the globe. Also fundamental to Novell's vision of the future is an open set of application programming interfaces (APIs) that will make it easy to incorporate NDS and other NetWare 4 networking services into distributed applications.

Providing End-to-End Network Management

Staffing costs and end-user productivity are the issues that keep IS managers awake at night. And that has never been more true than it is today. As networks expand and intertwine, the critical success factors for network managers will include:

- Increasing network uptime, both in operation and when installing new users or applications
- Increasing efficiency by supporting rapid network growth without commensurate growth in staff
- Increasing responsiveness, fixing problems in a way that minimizes idle time for users or within business processes

To meet these needs, Novell offers ManageWise. It combines both network management and PC administration into a single, integrated package. Previously, most PC administration and LAN management products worked independently of one another, each requiring dedicated staff and resources.

ManageWise is the integrated solution that offers a single view of the network. It provides analysis tools for understanding bottlenecks; permits the configuration, inventory, and diagnostics of PCs from a single local or remote site; and provides tools for monitoring and managing remote and local servers. IDC's research demonstrates that even small and medium-sized companies can achieve significant cost savings by implementing ManageWise (see Figure 5). Network managers found that the most significant gains in efficiency were realized in server operation and help desk functions. Using ManageWise also increased LAN manager responsiveness. Before implementation, only 30% of network or end-user problems could be solved from a central site; afterwards, that number rose to 60%. This is especially important for companies with highly decentralized operations.

Since the software-licensing, maintenance, and training costs of a product like ManageWise are low compared to the number of users potentially affected, the return on investment can be surprisingly high. Across the survey base polled by IDC, ManageWise paid for itself on average within 19.7 days.

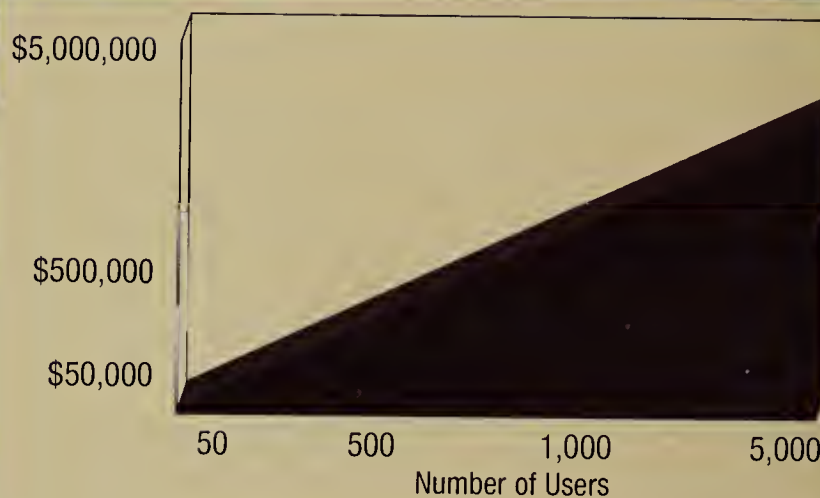
For every 100 users, implementing integrated management with ManageWise saved \$95,784 annually. These savings are attributable to the following:

- More efficient systems management, including an increase of 33% in the number of servers and 25% in the number of PCs a staff person can support, and a decrease in travel of 53%, leading to annual cost savings of \$14,500
- Significant reductions in the time required to perform key management tasks—such as five hours in moves and changes, nine hours in server maintenance and configuration, seven hours in help desk and support, four hours in problem tracking, three hours in printer maintenance, etc.—saving \$30,844 annually
- Dramatic reductions in network downtime (over 50%) due to network outages, delays addressing problems at the desktop, or time spent installing and configuring applications, generating annual savings of \$50,440

Cost-Savings and Client-Server: They Aren't Mutually Exclusive

Believe it or not, return on investment in networking can be quantified. While it may sometimes seem that networks are growing out of control, vendors like Novell are in fact working diligently to develop products for simplified, easily managed

Figure 5 — Average Annual Savings From ManageWise



Source: International Data Corporation, 1996

local, wide-area, and global networks. Because of the strategic and financial advantages of networking wherever systems reside and users roam, organizations will be forced to expand the reach and complexity of their networks simply to remain competitive.

Astute companies will concentrate on migrating to client-server computing in ways that maximize both the resources available to run networks and the effectiveness of those who ultimately generate revenues and profits—namely, end users.

Call to Action

This is an executive overview of a three-part series of White Papers entitled:

- Novell GroupWise: Leveraging Desktop and Network Investments
- Novell NetWare 4.1: Reducing Cost of Ownership
- Novell ManageWise: Maximizing Returns on Networking Investments

For a free copy of the Novell Business Advisor containing tools that help you assess return on investment with NetWare, ManageWise, and GroupWise, as well as electronic versions of the IDC White Papers, call 1-800-665-4586 or visit either the Novell home page at <http://www.roi.novell.com> or the IDC home page at <http://www.idcresearch.com>



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whom, the decision can be made to outsource to multiple providers, partner with a single large provider or return the function to the business unit.

Once the decision is made to outsource, managers should go through a structured process that includes the creation of an overall project plan, a human resources strategy, a comprehensive request for proposal (RFP), a formal bid process (including vendor evaluation modeling, detailed contract negotiations and contract creation) and the development of a detailed implementation plan.

The process, if done correctly, should help solve the one-stop shopping versus best-of-breed dilemma. Companies can create RFPs that have modular characteristics, providing for the inclusion of both large generalists and smaller niche specialists. All are judged on the same decision criteria. Under that methodology,

the management team can compare all the large vendors with each other as well as with a "cluster" of specialists grouped together to form an ad hoc generalist. In doing so, managers can compare the merits of each approach, look at the tradeoffs and make a decision.

Some managers are forsaking "one-stop shopping" in favor of subcontracting the project themselves.

Companies can award the project to a large global provider while writing a modular contract that allows them to set up an ongoing process to measure the vendor against individ-

ual quality specialists. Another option is to alert bidding vendors in advance that they may have to partner with certain smaller companies.

Finally, some may wish to award the contract or pieces of it to any company that simply demonstrates in the bidding process that it can provide the best service.

Ultimately what's at stake is a company's philosophy about controlling its own destiny. In awarding a contract to a generalist, managers must understand how the vendor plans to fulfill contractual commitments. Clearly, that approach requires substantially greater diligence upfront, but it should pay enormous rewards over the long haul. **CIO**

Stanley Goldman is the president and CEO of Technology & Business Integrators Inc. (TBI), a management consulting firm in Woodcliff Lake, N.J. His e-mail is sgoldman@tbicentral.com.

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Outsourcing

In the '90s

THE ART OF THE DEAL

As outsourcing partnerships become more the rule than the exception, CIOs learn that the give and take continues long after contract negotiations have ended

BY RICHARD PASTORE

Inflated expectations, inevitable disappointments. Broken promises, punitive paybacks. These aren't the plot points of a TV melodrama or tragic romance novel but the realities of many outsourcing relationships. Outsourcing partnerships have proved to be no bed of roses. The honeymoon typically ends quickly, and the couples find themselves struggling to maintain harmony through painstaking relationship management. Their lessons are relevant for today's CIO, whose job will increasingly be recast as relationship manager for these ongoing arrangements.

A shrewd contract packed with customer-friendly clauses is a good start, but contract stipulations commonly fail to translate into reality. Of the 221 CIOs responding to a 1995 Gartner Group Inc. survey, 47 percent who have been in a relationship more than two years dubbed their outsourcing experiences a "mixed bag," while 12 percent deemed them outright failures. Outsourcing veterans say that bolstering the success rates of these arrangements depends as much on the art of the relationship as the science of the contract.

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"You can have the best contract in the world, but if you don't manage it, it doesn't do you any good," says Paul Gearhart, director of information technology procurement at Allied Signal Inc. in Tempe, Ariz. Service level agreements, performance reporting, governance structures, subcontractor approval rights and penalty charges were all wisely built into Allied Signal's contract with IBM Corp.'s Integrated Systems Solutions Corp. (ISSC) in Somers, N.Y. But the company failed to enforce the provisions—particularly the penalties—

"When a vendor doesn't deliver, it's a client's responsibility to let them know."

—Ronald Gallagher

and Gearhart cites his own company's insouciance as the key reason for difficulties encountered after the deal was finalized. Allied Signal and others have discovered the hard way the following strategies for successful post-contract management.

Impose Penalties

Some companies see a vendor performance shortfall as an opportunity to extract nonmonetary payback, wheedling some free service on the side in lieu of penalty charges. While such a compromise may be expedient, it sends the wrong message to vendors and undermines the company's position, says Gearhart. "Trading penalties for services truly negates the whole intent of performance measurement and charges," he says. When a charge is levied and there is a cash outflow, vendor executives take notice. That won't happen when companies make deals and waive charges. "It tells the outsourcer that you're willing to compromise service levels," says Gearhart.

Be Prepared

Many companies fight hard to win penalty provisions from vendors only to find themselves averse to levying charges or forcing a dispute of any kind. Indeed, conflict avoidance is one

Dangerous Liaisons

Don't Delegate Critical Details

"If you're the CIO, this ought to be your lifeblood. You go to the meetings, you don't delegate them. If you buy dog food, you're going to have to eat it."

—Richard LeFave, vice president and CIO of Southern New England Telephone Co.

Some company executives believe that when they outsource IT they cede the IS leadership burden as well. In effect, they try to outsource the CIO's role, but in truth nothing could be more shortsighted or dangerous.

The CIO is one of the few staff members likely to have the skills and background necessary to successfully manage an outsourcing relationship at the strategic level. Procurement chiefs, IS middle managers and even auditors can oversee the day-to-day operations of a deal by spotting performance problems or tending to the details of the contract. But only an IS executive can ensure that vendor strategies mesh with corporate goals and vision.

"We've read for ages that the CIO has to become a businessperson," says John Paul Back, manager of information resources management at A.K. Steel Corp. and manager of the Middletown, Ohio, company's outsourcing relationship. That mandate is even more relevant with outsourcing. "If you do not have a CIO who is first a businessperson and can understand and administer the contract, then it's going to fail," he warns.

What skill set should CIOs cultivate to be smart relationship managers? To begin with, they must understand the nature of the business with which they are dealing. CIO relationship managers would do well to learn to be strategic in their thinking, well-focused, even-tempered, tough-minded, creative and strong negotiators, according to Dr. Wendell Jones, senior vice president of technology services at the National Association of Securities Dealers/Nasdaq Stock Market in Rockville, Md. "A CIO with only technology skills is not the person to run this relationship," says Jones.

—R. Pastore

of the most common scourges of outsourcing relationships. "It's an unpleasant and painful duty, so it's very easy for managers to back off," notes Ronald G. Gallagher, a former IS leader at Allied Signal who negotiated the outsourcing contract there. Ultimately, the company is responsible for user satisfaction, "so when a vendor doesn't deliver, it's a client's responsibility to let them know," says Gallagher, now president of Oust Consulting Inc. in Paradise Valley, Ariz. Execute the charging mechanism, he urges, "and make it painful."

Amtrak's reluctance to confront ISSC with what it considered standard performance levels contributed to some sticky times between the companies at the beginning of their relationship. "The first year is some-

times considered a learning curve, and you tend to think you can live with imperfection. But after a year, you get frustrated," says Norris Overton, former vice president of IS and reengineering for Washington-based Amtrak. Overton had moved on to become Amtrak's vice president of customer and employee satisfaction but stepped back into the picture when he saw that the outsourcing arrangement he had championed was in trouble.

Part of Amtrak's conflict avoidance can also be attributed to becoming too closely allied with the vendor. According to Overton, one Amtrak IS director charged with relationship oversight became too friendly with his counterparts at ISSC after working side by side with them for a year. "He spent much of his time explaining the



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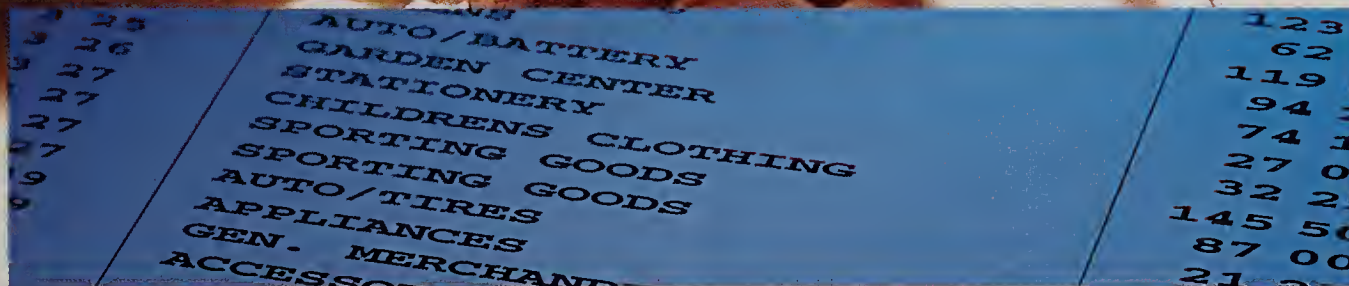
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vendor's difficulties and not demanding that it meet our standards," Overton says.

Go to The Top When Necessary

To save the relationship, Amtrak did what it deemed necessary. "I called [former ISSC President and CEO] Sam Palmisano to discuss the problems and concerns we had with the contract," Overton says. "I made sure I was able to present sufficient evidence that their performance was not up to what they had promised." For example, Amtrak IT users were suffering a spate of network crashes, something they rarely encountered before outsourcing, he says. "ISSC did a good job running the data center, but they were not providing LAN users with service levels to which they were accustomed," says Overton.

ISSC subsequently took steps to preserve the relationship, including changing personnel and adding service not originally called for in the contract. Being flexible enough to modify the contract to ensure great service is worth a lot in the long run, Palmisano, who recently became general manager of IBM Personal Computer Co. The caveat, he adds, is that the customer must be fair to the vendor. "You can't ask a vendor to take on more work without some level of compensation. Norris is a very good executive; people like that don't make those kinds of [unreasonable] requests."

Heading straight for the top is often the easiest way to resolve disputes that would otherwise bog down in the contentious quagmire of the operational nether levels. Tough schedules and continual pressures make friction and fights inevitable on the front lines. To rise above all that, "you need a way to escalate issues so that they don't boil over and cause an 'I'm-going-to-get-my-lawyer' reaction," says Joe Deney, vice president of IS at McDonnell Douglas Corp., the St. Louis aerospace giant.

Eastman Kodak Co. is another company with an inclination to escalate. "We aren't bashful. If the problem is severe enough, we feel that Kodak can call the senior manage-

ment at our service providers right now," says Vaughn Hovey, manager of IT, supplier and alliance management in Rochester, N.Y. But he acknowledges that escalation is a remedy that shouldn't be overused. "You'd better be serious about it," he says. "Otherwise it loses its effectiveness and sends the signal that local staff is not effective."

Palmisano, for one, says he'd rather be pestered than not. "It's much better to hear from the customer that there's some concern we need to work on versus hearing about it from the competitor or reading about it in one of the trade articles," he says.

Set Up a Governing Board and Meet Regularly

Though it's probably best to get the immediate attention of your vendor's CEO for urgent issues, planning to meet regularly with a governing board can successfully resolve most other disputes.

Just about every outsourcing relationship incorporates meetings between vendor and client groups at various levels of the management food chain. But not all of them live up to their best intentions. Many contracts stipulate such meetings, and they may take place one or two times, but then the enthusiasm falls off, and meetings become less regular or occur on a lower level—and thus become less effective.

Kodak can attest to the importance of governing boards. When its divisional governance committees did not meet as frequently as was specified in the contracts, the vendors more often failed to meet their objectives, Hovey says. When they met regularly, things worked better. Consequently, Kodak's most recent contract renewals reemphasize governing councils and encourage meetings of the minds on tactical issues. Higher-level management boards now meet annually or semiannually to attend to more strategic issues and to make sure the overall outsourcing provisions are being satisfied.

At McDonnell Douglas, the governing bodies are contractually required to meet a minimum of once a year.

When Kodak's divisional governance committees did not meet as frequently as was specified in the contracts, the vendors more often failed to meet their objectives.

The board members are the bosses of all the IT leaders—vice president level at least. "And because our contract is so big, we've also established a president-to-president relationship," Deney adds.

Vendors are eager for these high-level meetings as well, if only to afford an opportunity to make their case. Boston-based software consultancy Keane Inc. has had customers who were reluctant to spare their senior managers for joint meetings. "It's tough from our standpoint," says Brian Keane, vice president and area manager of Keane's information services division. "We need to report our accomplishments to this constituency somehow, even if it's in writing."

Don't Outsource the Oversight

As important as governance and oversight are, companies may find they have no one on staff capable of shepherding the relationship. It's the old problem of paring too close to the bone. "In their zeal to reduce cost, they transfer or cut the personnel resources they need to manage the contract," observes Gene Procknow, national director of technology outsourcing advisory services for Deloitte & Touche Consulting Group in Boston.

Like it or not, companies must devote a certain amount of full-time staff to managing these agreements. "It won't just manage itself," warns Dr. Wendell Jones, senior vice president of technology services at the National Association of Securities Dealers/Nasdaq Stock Market in Rockville, Md.

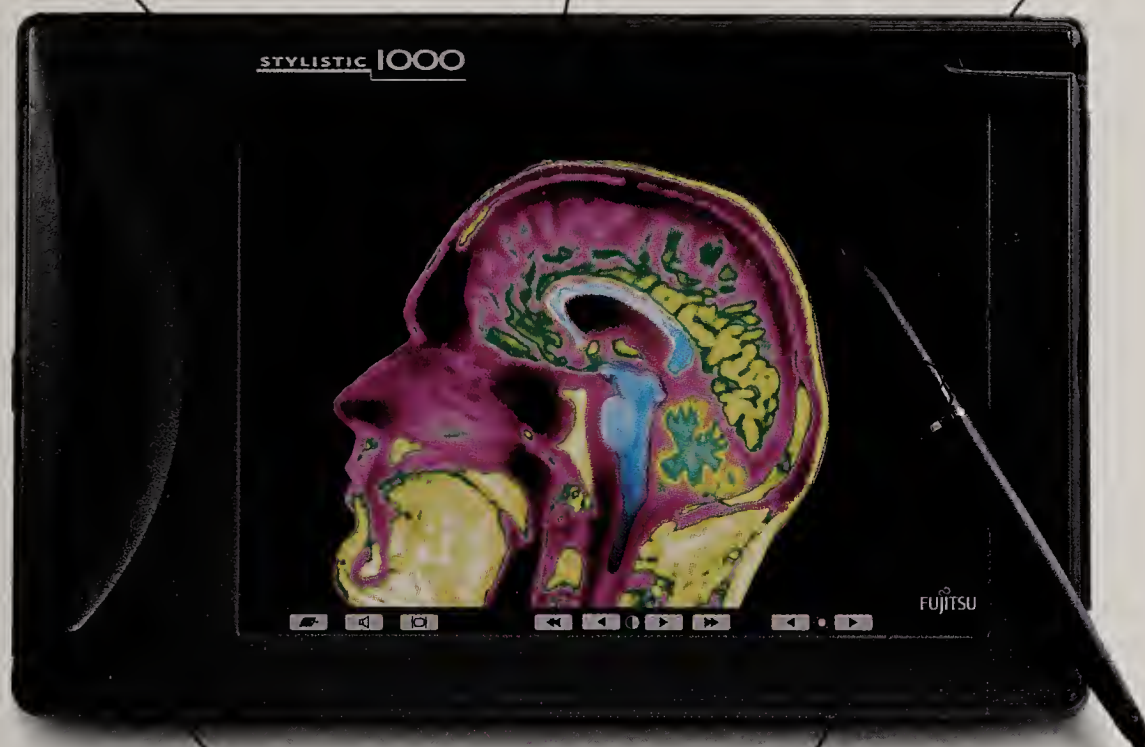
But how many people should be devoted to the task? A recent joint survey by The Outsourcing Institute in New York and Arthur Andersen & Co. found one full-time dedicated per-

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son per \$20 million spent on outsourcing for contracts over \$5 million. This benchmark is less accurate for megadeals, since there are efficiencies of scale when the contract gets above \$300 million or \$400 million, notes Michael F. Corbett, co-founder and director of research and member programs at the institute. (For further findings on the study, "Post-Contract Management," see The Outsourcing Institute's Web site at <http://www.outsourcing.com>.)

McDonnell Douglas initially devoted 20 full-timers to the relationship with ISSC, according to Jones, who was involved in the megadeal before

"It was my sense that their staff was not really in tune with our corporate culture."

—Norris Overton

he left the company two years ago. The number has since been reduced as the relationship has matured.

An oversight team should include specialists in technology, usage charges, financial accounting and, above all, an executive with business acumen who can ensure the technology remains aligned with the business strategy. Most say it's a role perfectly tailored for today's CIO (see "Dangerous Liaisons," Page 42).

Maintain Continuity of Management

Losing management continuity is another common obstacle on the road to relationship caretaking. The people involved in the contract negotiations should be those involved in ongoing oversight. By maintaining such continuity, managers are more likely to be working from the same page, sharing the same understanding of the motivations, goals, terms and, most important, the unwritten expectations of the agreement.

Brian Smith, executive director of the headquarters group in the Global Operations and Technology department at American Express Bank Ltd. in New York, negotiated a pact with Electronic Data Systems Corp. more

High Hopes

.....
Successful outsourcing depends on realistic expectations

One of the main reasons outsourcing relationships go south is that companies think the vendor isn't living up to its end of the bargain. The trouble is, many of the client's expectations are unrealistic or unreasonable.

For starters, many companies think outsourcing will cure all their problems—resolving technology, development, and maintenance concerns while relieving managers of staffing burdens. In reality, companies will be faced with many new difficulties that the contract negotiators never anticipated, says Rita Terdiman, vice president and research director at the Gartner Group Inc.'s Bay Area Research Center in San Jose, Calif.

Also, cost savings are sometimes inflated in the mind of the eager executive. "Some customers squeeze and squeeze on the price issue until it

becomes a win-lose deal" says Lane Nonnenberg, Hewlett-Packard Co.'s sales and marketing manager for worldwide customer support operations, which include outsourcing services. It's also unreasonable for cost savings to materialize during the transitional period, which could span three months to a year.

Another unrealistic expectation:



than a year ago and made certain he was dealing with the people who would eventually manage the account, not just sales or marketing staff. Smith himself has since gone on to manage the relationship. Of course, he notes, "it's not something I want to do for the rest of my life," so he's communicated the terms, goals and motives of the deal to colleagues who might someday step into the role. Keeping precise logs of decisions and agreements, including their rationales, will help when it's time to pass the baton.

Don't Force a Bad Fit

In some cases, however, continuity may be the last thing one would want. Personality clashes may seem trifling in the strategic world of big business, but they can send a multimillion-

dollar outsourcing relationship to the brink. Amtrak and certain ISSC personnel apparently got off on the wrong foot in their 10-year, \$500 million arrangement. "It was my sense that their staff was not really in tune with our corporate culture," Overton says. "They were more concerned with referring to the fine print in the contract than with providing customer service." When Overton would go to senior account managers with requests, he says, he was met with indifference or antagonism. "They would tell me that they would get to it, but they were working on other things right now," he says. "I pointed out that we—and not 'other things'—were their number-one priority."

Amtrak asked for the removal of ISSC's senior account manager, exercising its right to approve or reject the

companies, especially big ones, feel vendors should not mind providing incremental services and change orders for little or no cost. "If someone wants us to change the dynamics of a contract, we're flexible and would be willing to do so. But they can't ask us to take on development without giving something else up," says Sam Palmisano, former president and CEO



of IBM Corp.'s Integrated Systems Solutions Corp. in Somers, N.Y. "And I can't do it for free."

It's impossible to anticipate specific business changes at the time a contract is signed. Instead, companies and vendors alike should be flexible enough to adapt to change. "How many businesses out there haven't changed in the last five years?" asks Brian Keane, vice president and area manager of the information services division of software consultancy Keane Inc. in Boston. "The point is not to forgive the vendor but to recognize that change happens and to be flexible enough to change the rules and set up a fresh arrangement," he says.

Subcontracting is another common vendor practice that can throw clients, and relationships, for a loop. Few companies anticipate that their vendors will subcontract major portions of the work to third parties. Nevertheless, it's a common practice that isn't going away, Terdiman says. "IBM, for example, is a great practitioner of subcontracting, and some of my clients think they do it too much. But it's an accepted practice, particularly in the desktop area," Terdiman told the audience at

Gartner's IT Services and Outsourcing Strategy conference in New York a few months ago.

Palmisano concurs. Subcontracting, he says, is a necessary business practice that occurs at ISSC as often as it does elsewhere in the industry. "Companies usually take exception to subcontracting only when they experience subpar service levels," he says. They automatically assume that the service would have been better if it were a bona fide vendor employee performing it rather than a subcontractor. "But the root cause [of outsourcing difficulties] is when somebody—an ISSC employee or a third party—doesn't follow the procedures," Palmisano says. "Our challenge is to make sure that they do."

Finally, many vendors point out that frequent references to the contract don't lend themselves to successful relationships. Contracts should be kept in a drawer with the understanding that they are living documents open to ongoing interpretation, Keane says. "If you get to the point where you're waving the contract around, outsourcing's not for you."

—R. Pastore

vendor's staff assignments. Such rights are not part of all contracts, but they are becoming increasingly prevalent. Consultants encourage them; their leverage can help not only in dealing with undesirables but in keeping the vendor from playing musical chairs with assigned staff. Deloitte's Procknow says he's seen situations where vendors yanked their best people off customers' development projects to deploy their hard-to-find skills elsewhere. "I've also seen a vendor pull major account people two weeks before a major systems cutover," he says. "That can cause a lot of heartache." He advises using contract clauses that keep people on the account for the duration of a project or require advance notice of key personnel changes.

Even in the absence of contract

rights to approve and reject personnel, few vendors will balk at satisfying a customer request. While Keane doesn't grant accept-and-reject rights for everyone, it will make accommodations. "If a client and our project manager don't get along, we are making it difficult for ourselves" by keeping that person on, says Keane. He points out, however, that clients often get needlessly concerned when the vendor starts offloading people from the account, a practice he says is a basic business strategy that allows vendors to profit by providing expected service levels with fewer and fewer staff.

Are these relationships worth the pain of managing them? Just ask those managers who've tried outsourcing and

decided to go back—if you can find any. The truth is, despite the hassles, the benefits make it hard to turn your back on outsourcing. Allied Signal's relationship with ISSC is a case in point. Despite Gearhart's contention that his company mishandled its relationship with ISSC, Allied Signal recently decided to expand its commitment to outsourcing with the same vendor. Allied Signal will now look to ISSC to handle its LAN support, centralized help desk duties and some onsite support for 135 North American locations and 40,000 devices. The couple may have their disagreements, but in a strong relationship, they ultimately work things out. **CIO**

Managing Editor Rick Pastore can be reached at rpastore@cio.com.

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Outsourcing

In the '90s

THE ODD COUPLE



An intriguing and innovative outsourcing deal between Swiss Bank and Perot Systems shows others how to think about the risks and rewards of a new kind of relationship

BY CAROL HILDEBRAND

If size alone could guarantee a deal's success, then the outsourcing arrangement between Swiss Bank Corp. and Perot Systems Corp. would appear to be about as solid as one can get. The agreement, announced in September 1995, calls for Swiss Bank (headquartered in Basel, Switzerland) to pay the Dallas-based outsourcer \$250 million annually for the next 25 years to assume the management of IT operations for SBC Warburg, Swiss Bank's investment banking division.

Perot Systems' JOHN KING (left) and SBC Warburg's CRAIG HEIMARK refined an outsourcing deal that reflects the vision and values of both companies.



PHOTO LEFT BY KATHERINE LAMBERT; PHOTO RIGHT BY PETER JORDAN / LIAISON INTERNATIONAL

Outsourcing

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Since January, about 700 of SBC's worldwide employees have become part of the payroll of Perot Systems' new Global Financial Services Division, headed by the division's chief operating officer, John King, in Reston, Va. Perot's new entity will manage the systems, hardware and network administration for SBC Warburg's mainframe and client/server platforms; however, Swiss Bank will retain ownership of the equipment, according to Peter Wuffli, chief financial officer at Swiss Bank. "Perot will do things like network maintenance and software installation—things that have nothing, really, to do with banking," Wuffli says. Core banking applications, such as credit, portfolio and risk management systems, will remain under the aegis of SBC Warburg. For its part, Perot could see its revenues double, from \$300 million in 1995 to more than \$600 million in 1996.

"I believe that if we're really successful, Swiss Bank will have paid very little, in effect, for its data processing for the next decade or so."

—James Cannavino



But while the numbers alone might be enough to capture the attention of industry watchers, the deal's structure is what really has eyebrows shooting skyward. Swiss Bank has acquired an option to purchase 10.5 million shares, or 24.9 percent, of privately held Perot; Perot, in turn, has taken a 40 percent stake in Swiss Bank's Switzerland-based IT subsidiary, Systor AG, which handles much of the back-office functions of Swiss Bank's domestic and retail arm.

The agreement will require both companies to confront challenges not usually found in outsourcing arrangements: In addition to addressing their cultural disparities, Swiss Bank and

Perot must reconcile how much leverage each company will wield over the other and how much freedom Perot will have to work with SBC Warburg's competitors.

When a company decides to outsource its IT function, it can follow any one of several paths. It could go the traditional, fee-for-services route or take a more innovative "co-sourcing" approach, says George Logemann, director of management strategies consulting at the Yankee Group in Boston.

He points out that companies are forming strategic joint ventures in hopes of actually generating a profit from technology instead of treating their IT departments simply as cost centers, ripe for reduction or reengineering. Delta Air Lines Inc. and AT&T Corp.'s Global Information Solutions unit, for example, formed TransQuest Information Solutions in late 1994 as an independent IT services company responsible for Delta's IT needs; but TransQuest also offers its services to the outside market (see "Ready for Takeoff," CIO, Sept. 15, 1995). Similarly, Tech-

Let's Make a Deal

From Basel to Bermuda, Swiss Bank Corp. and Perot Systems Corp. covered a lot of ground, both geographically and strategically

December 1994

Chicago: Craig Heimark and Mort Meyerson hatch the idea of a possible outsourcing deal.

February 1995

Chicago & Dallas: Meyerson, John King and David Sewell meet with Heimark for initial discussions.



March 1995

Zurich & London: The discussions move up to Swiss Bank's corporate level.

April 1995

Dallas: Peter Wuffli and Hanspeter Bruederli meet with Meyerson.



"It was clear that we were picking a less experienced company. EDS or IBM had broader expertise, but Perot was hungrier and had more growth potential."

—Peter Wuffli

London

Switzerland: Basel, Zurich, Thun

April 1995

Basel: Meyerson presents ideas to Swiss Bank's board of directors.

May, June 1995

The companies continue defining the deal via videoconferencing.

June 1995

Thun, Switzerland: Meyerson, King and Sewell meet with Wuffli, Heimark and James Burns at a two-day off-site meeting. The team refines the deal to best reflect the vision and values of both companies. King says the off-sites were critical to establishing the level of trust necessary to move forward.

July 1995

Bermuda: James Cannavino is brought in as a consultant for Swiss Bank at another multiday off-site meeting. The team shakes hands informally on the rough outline of the equity deal. Products and services are defined by the end of July.

September 1995

Swiss Bank and Perot Systems sign a letter of intent.

Jan. 4, 1996

The agreement is officially signed.

The line-up

SWISS BANK PLAYERS:

Craig Heimark, CIO (SBC Warburg)

Peter Wuffli, CFO (Swiss Bank)

Hanspeter Bruederli, head of logistics (Domestic Division)

James Burns, COO (North America)

PEROT SYSTEMS PLAYERS:

Mort Meyerson, chairman, president and CEO

John King, COO (Global Financial Services Division)

David Sewell, head of European business development

James Cannavino, (worked as an independent consultant for Swiss Bank during the negotiations and has since moved to Perot Systems as its president and COO)

nology Service Solutions, a joint venture between Eastman Kodak Co. and IBM Corp., provides multivendor PC maintenance and support services to other companies as well.

The co-sourcing arrangement removes one of the key problems of a traditional outsourcing deal, says Wuffli. "In a typical outsourcing contract, you have a permanent conflict of interest because the cost of one partner is the revenue of the other," he says. Joint ventures such as TransQuest seek to eliminate that conflict by creating an independent company responsible for its own prof-

it and loss and to provide the opportunity for IS to make a profit by marketing custom-developed systems. Swiss Bank and Perot have taken the co-sourcing trend one step further by agreeing to the bank's equity position in Perot. Instead of creating a separate, independent company along the TransQuest line, the Swiss Bank-Perot deal offers Swiss Bank the chance to make a profit from IT without losing control of an important function. And Perot, with its infusion of skilled banking system employees from SBC Warburg, becomes a credible presence in the financial services

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Outsourcing

In the '90s

marketplace. Moreover, if Perot continues to grow, Swiss Bank could profit considerably through its investment.

"What Swiss Bank is doing is taking its home-grown solutions and exploiting them commercially through Perot," says Vijay Gurbaxani, a professor and associate dean at the Graduate School of Management at the University of California at Irvine. "But it's the equity portion of the deal that makes this outsourcing arrangement unusual."

However, analysts also point out that the two companies must find ways to mix their cultures and balance strategic and competitive issues. "The jury is still out on whether any of these [co-sourcing] arrangements will work," says Erik Brynjolfsson, a professor of management science at the MIT Sloan School of Management in Cambridge, Mass. By examining the Swiss Bank-Perot deal from a number of different angles, CIOs can decide for themselves whether this particular concept might work for them.

It's not difficult to imagine why Swiss Bank would consider outsourcing IS in the first place. Technology investments typically rank high on a bank's list of expenditures, second only to payroll; therefore, outsourcing technology can cut costs in a big way. While Wuffli would not divulge specific numbers, he says Swiss Bank spent "well over a billion Swiss francs [approximately \$840 million U.S.], or about a quarter of the bank's total budget, for IT."

Swiss Bank also faced an industry shakeout characterized by decreasing margins and increasing globalization, and new market entrants seemed intent on completely restructuring the delivery of financial services. As a result, Swiss Bank had to make a choice, says Craig Heimark, CIO of SBC Warburg. "We needed to focus on banking," he says, by paying attention to activities such as securities trading and risk management systems that lie at the core of any bank's



Perot Systems' John King says the company's previous bank deals were built on merit, not H. Ross Perot's friendship.

survival. "We realized we could put our energies into building an IT capability ourselves or we could simply acquire it externally," he says. "When we thought of it that way, the decision [to outsource] was easy."

Heimark draws an analogy to car manufacturers, which increasingly subcontract their parts manufacturing. "In the automotive industry, a starter mechanism in a car is critical to the successful delivery of the auto to the customer, but that doesn't mean that GM has to manufacture it," he says.

While the bank's IT function clearly needed a new direction, Swiss Bank executives were reluctant to hand over control to a traditional outsourcer. "We all agreed that, after banking, IT was our most important function," says Wuffli. "So we didn't want to give it to a big outsourcer such as IBM or Andersen, because we were afraid we'd become just one of their many accounts," he says.

But if Swiss Bank wanted a company with deep banking systems expertise, Perot was hardly at the top of the list, says M. Arthur Gillis, president of Computer-based Solutions Inc., a consultancy in New Orleans. "There are 10 companies stronger in that area than Perot," he says.

What Perot did offer was a willingness to give Swiss Bank equity. "If you went to [EDS Corp. chairman, president and CEO] Les Alberthal

and tried to buy 25 percent of his company, you wouldn't get further than the lobby," says Gillis. On the other hand, because Perot was an eager young company, it was willing to explore the more strategic options with the likes of Swiss Bank. That attitude interested Swiss Bank executives, says Wuffli. "It was clear that we were picking a less experienced company," he says. "EDS or IBM had broader expertise, but Perot was hungrier and had more growth potential."

Tapping into that hunger was worth some trade-offs to Swiss Bank, says Wuffli. In lieu of experience and a strong track record in the financial services

industry, Swiss Bank negotiated a deal with Perot that allowed the bank to retain more control of its IS function as well as enjoy being the biggest fish in Perot's puddle. Now, as part owner of Perot, Swiss Bank is guaranteed a most-preferred-customer status there. The bank can save money by outsourcing IS without losing control over its important functions. Moreover, Swiss Bank's equity position in Perot could eventually net it a tidy windfall if Perot decides to go public; Perot Chairman, President and CEO Mort Meyerson says a public offering could come in 1997.

Like Swiss Bank, Perot Systems was facing tough industry pressures that made the co-sourcing agreement with Swiss Bank look compelling.

Increasingly, competition to develop next-generation systems has kept outsourcers with one foot in the business world and the other in technology, according to Gurbaxani. To remain vital, Perot had to move its business from basic data center management—helping companies cut IT costs through economies of scale—to become an expert in one industry segment and develop and market new niche services. In particular, Perot wanted to acquire deep vertical expertise in financial services—one of



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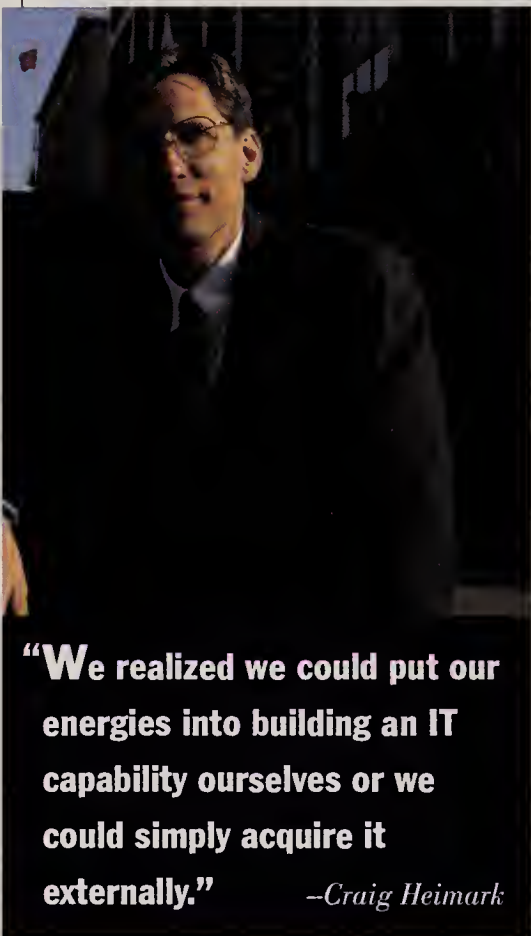
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Outsourcing

In the '90s

the largest growth segments in business today, says Perot's King. But the financial services market is already crowded with heavyweights such as Fiserv Inc. and Alltel Financial Services Inc., and although Perot had demonstrated an ability to manage and integrate systems, its employees lacked the commensurate banking experience necessary to develop applications for the financial market.



"We realized we could put our energies into building an IT capability ourselves or we could simply acquire it externally."
—Craig Heimark

As part of the deal, Perot got the jolt of skilled banking system expertise it needed from the addition of hundreds of Swiss Bank employees (not to mention a healthy infusion of cash from the equity agreement) and thus moved into a position to become a credible presence in the financial services marketplace.

Analysts will use this bellwether deal to predict the success of others involved in co-sourcing agreements. For now, however, industry observers remain somewhat guarded about how well the companies will mesh.

Perot has previously managed major deals with only two U.S. banks. Gillis says that company founder H. Ross Perot's friendship with NationsBank Corp. Chairman and CEO Hugh L. McColl Jr. was a major factor behind one of those agreements and that even that deal was later scaled back in scope. King agrees that the NationsBank contract had its start in McColl and Perot's friendship but says Perot Systems won a long-term relationship with NationsBank on its own merits.

In addition, one of Perot's premier European accounts, a large car-rental agency, "had been bleeding money for the past couple of years," says Logemann. Although Perot spokesman Jake Dye says that the cost issues at Europcar International were development costs related to a client/server migration and that the project is now on track financially, the situation hardly fills a conservative banking company such as Swiss Bank with confidence.

The deal also raises issues about autonomy. Perot must find a way to profitably market the financial services information gleaned from SBC Warburg without stepping on Swiss Bank's toes, competitively speaking. To do so, according to Gurbaxani, the companies must strike a balance between independence and ownership.

For example, as a shareholder, SBC Warburg would naturally encourage Perot to aggressively market its expertise, even to competitors. But Swiss Bank might have second thoughts if its IT partner starts selling its proprietary skills to those competitors. In response, Perot President and COO James Cannavino says that the companies spent a great deal of time analyzing SBC Warburg's systems and decided, for the most part, that the truly strategic applications will remain under the Swiss Bank umbrella.

The two companies also built some other precautions into the contract. For example, Swiss Bank purposely did not take a seat on Perot Systems' board of directors. "It was never our intention to control Perot in that sense," Wuffli insists. "If we did, it would reduce their ability [to do busi-

ness] with other banks," he adds.

The companies have, in fact, addressed how they will do business with the competition: If Perot wants to enter into a large-scale agreement with a competitor, it must first discuss it with Wuffli, Heimark and other senior executives at Swiss Bank. In return, Perot has an exclusive contract with Swiss Bank in operations management but not in financial systems application development, where the bank is free to take competing bids. Perot can, however, exercise a most-favored-outsourcer clause for the chance to counterbid.

Beyond that, Brynjolfsson warns, the two partners could face other unexpected challenges. Perot, like any other company, must sustain growth to ensure profitability, but its biggest customer's equity stake in the outsourcer makes that proposition all the more imperative. The deal may well be profitable for Swiss Bank, but only if Perot continues to grow. While the market for IT financial services is currently a big one, there are plenty of formidable competitors out there, and Brynjolfsson predicts a shakeout when the market matures. "Once the market levels off, lots of outsourcers [in that industry] could start running into trouble," he says.

Moreover, Brynjolfsson says his research shows no correlation between outsourcing and increased effectiveness in IS, so there is no guarantee that Swiss Bank will get a better IS mousetrap from Perot's management.

Logemann points out that there are further opportunities for the companies to broaden their relationship, such as in application development. But to do that, Perot must deliver satisfactorily on the present deal.

Cannavino says he is confident that his company is up to the task and that both companies will profit. "I believe that if we're really successful, Swiss Bank will have paid very little, in effect, for its data processing for the next decade or so," he says. "And they will have had an opportunity to make a lot of money." 

Senior Writer Carol Hildebrand can be reached at cjh@cio.com.



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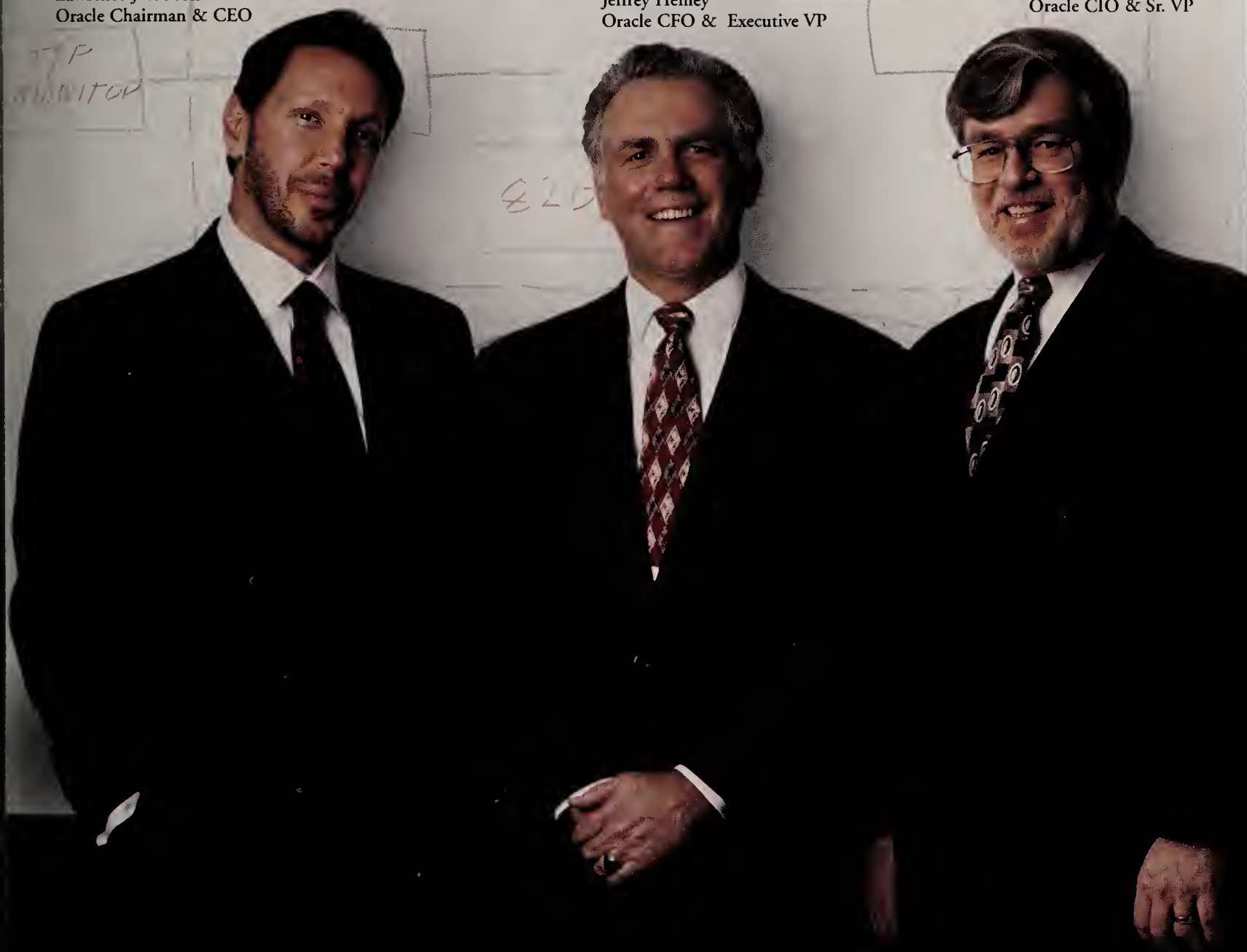
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An advocate for revenue
management explains how
businesses can squeeze
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downsizing

BY MEGAN SANTOSUS

AT THE VERY MENTION OF HEAVY COMPETITION or higher costs, many organizations respond with the predictability of Pavlov's dog. Once they hear the first toll from the bell of market pressure, their mouths start watering at the thought of downsizing and reengineering. After all, the ingrained business experiment teaches that the best way to reduce costs and improve profits is to trim excess employees or streamline processes. Right?

Robert G. Cross will tell you that a better way exists. As chairman and CEO of consultancy Aeronomics Inc., Cross is one of the foremost proponents of using revenue management (RM) principles to boost corporate profits and performance. In basic terms, an RM program prices goods and services in a way that accurately reflects what consumers are willing to pay. Cross's favorite simplistic example of RM in action is his own barbershop: Customers who went to the shop on Saturdays usually had to wait a couple of hours, whereas barber chairs grew cold on Tuesdays. By raising prices on Saturdays and dropping them on Tuesdays, overall revenues increased even though the number of customers remained the same. RM for corporations is obviously a much more complex process that involves gathering and analyzing gigabytes of product data minutiae—a task that, in many cases, falls to the CIO.

While the investment in RM applications can be significant (as it has been for the airline industry), the payoffs are significant as well (see related story, Page 66). RM is not just a newfangled management fad; Cross predicts that RM principles will spread beyond airlines in the 1990s to all sorts of companies as gains from downsizing and reengineering eventually peter out. This fall, Broadway Books, a division of Bantam Doubleday Dell Publishing Group Inc., will publish Cross's book, *Revenue Management! Hard Core Tactics for Market Domination*. Recently, Senior Writer Megan Santosus spoke with Cross from his Atlanta office about what RM means for companies and IS departments.

CIO: To the uninitiated, RM may seem like an extremely esoteric science because of its crystal-ball-like approach of analyzing gigabytes of data to predict the future. How do you describe RM to those unfamiliar with the concept?

CROSS: Revenue management means maximizing revenues dynamically by predicting and satisfying customer demands at the micro-market level. To put it another way, through the analysis of historical data and consumer patterns, RM allows companies to sell the right product to the right customer at the right time for the right price. Take the airline industry, for example. By looking at historical travel patterns, airlines can, to a very large extent, predict future consumer behavior. They know that Thanksgiving is a busy travel period and that people like to fly someplace warm in the winter. They also know that people are willing to pay different prices, depending on where and when they want to travel. As a result, companies develop pricing structures, schedules and marketing programs that maximize the revenues derived from that future behavior. With RM, airlines know how to allocate resources much more effectively. And profits go up when revenues from existing customers are maximized and operations are improved.

CIO: Speaking of profits, many organizations seek to increase them through reengineering, downsizing or other initiatives designed to cut costs. If the same profits are realized by cutting costs rather than maximizing revenues, why should organizations adopt RM?

CROSS: Profit is a function of revenues minus cost. Everyone is trying to minimize cost and thereby maximize profits. But if organizations focus only on cost, they miss half of the equation. Reengineering, downsizing, rightsizing, etc., address only one component of the profit picture. The truth is, investors are looking for growth. In fact, investors place more value on growing companies with lower profits than they do on shrinking companies with higher profits. If you're investing in a company, you don't want an organization that's eking out profits because it has cut a lot of heads. You want a company that's growing and dominating its

marketplace.

Another aspect of RM that's so different from other management concepts is that its impact is generally positive. Reengineering and particularly downsizing are often perceived by both insiders and outsiders as very negative things. It's as if an organization is sending a message stating that it doesn't believe in what it's doing, that the only way to survive is to squeeze more out of people and processes. And there's a definite limit to how much organizations can gain from downsizing and reengineering.

CIO: Doesn't RM have limits as well?

CROSS: No. There's really no limit to the upside. The message received both internally and externally is one of affirmation.

It's as if an organization says, "We believe in what we're doing. We have good products, and we can capitalize on them by being a little bit more intelligent about the products we develop, how we price them and how we distribute them." The idea with RM is to get more revenue productivity from the products and services that are already in the marketplace. That is what makes RM so different from other management concepts out there.

CIO: Can you describe a success story that particularly demonstrates the positive impact of RM?

CROSS: A good example is National Car Rental System Inc., which won our Revenue Management Achievement Award in 1994. Back in 1992, parent company General Motors Corp. was going to liquidate National unless business improved. National tried everything—cost cutting, reengineering, downsizing—but nothing turned

the company around. The only choice left was RM, and for National it truly was an act of desperation. General Motors had to invest millions of dollars in an RM system at a time when it seemed likely that the plug might have to be pulled on National. The company centralized inventory management and pricing with the help of a client/server-based RM system that managed demand forecasting and inventory planning.

A major revenue management application today contains 500,000 lines of code. By 2011, revenue management systems will have 128 million lines of code.



As a result, National improved its fleet use rates and turned away far fewer customers who showed up without reservations. By 1994, National had turned itself around and is now one of the fastest-growing car rental companies in the United States, with business up 19 percent annually. If General Motors had liquidated National, it would have taken a \$2 billion hit to the bottom line. Instead, General Motors sold National for more than \$1 billion—a \$3 billion market value turnaround just one year after adopting RM. In National's case, RM not only reaped profits but saved the company—and 12,000 jobs along with it.

CIO: *RM has been firmly entrenched in the airline and travel industries since the 1980s. Can other industries benefit from RM concepts?*

CROSS: It varies. We've found that RM is most successful when companies are faced with radical change in their marketplaces, whether it's competition, deregulation or new customer demands. For those organizations that want new approaches toward serving customers or providing services and want to apply technology to solve their everyday business problems, RM can be very effective.

Deregulation happened in the airlines, and now it's happening in the broadcasting, telecommunications and utilities industries. Certainly, companies in these industries

are well-suited to adopt RM programs. Consumer fragmentation is another force of change that is affecting many companies. The broadcasting industry, for example, is experiencing a proliferation of networks and channels. Ten or so years ago, only three networks dominated the airwaves. Suddenly broadcast companies have to deal with a completely new environment driven by consumers wanting different things.

Most of the companies we work with say that they initiate RM programs either in anticipation of change or out of a sense of desperation. Many see change coming; others don't. They tell us that they've tried everything else and nothing worked. Principles of RM can and should be applied at any company that finds itself in unfamiliar territory and is looking for a better way to manage its new environment.

CIO: *You contend that RM must be driven by the CEO. What is the role of the CIO?*

CROSS: The CEO has the vision and the drive. He or she must also provide the organization with a clearly defined set of objectives. That's where the leadership role is. But someone has to see to the nontrivial task of implementing RM. How do organizations collect all the data?



Reacting on the Fly

Revenue management lands savings for airlines

Once companies have a revenue management system in place, they can predict fluctuations in demand and respond to them fluidly. The airline industry is best known for these types of successes.

Both American Airlines Inc. and United Airlines Inc. used RM programs to help forecast and manage demand during the 1994 World Cup soccer championships held in the

United States. Consumer demand to and from certain domestic and overseas destinations hinged on the outcome of games. Using forecast, demand and yield management information gleaned from RM systems, both airlines were able to dynamically react to changes in the marketplace as they occurred. Planes and crew were shifted on short notice to accommodate increased demand for certain routes. For several World Cup routes, American realized more revenues per seat-mile than on routes unaffected by the event. By shifting capacity where demand was highest, American collected more than \$2.7 million in additional revenues.

Another case in which revenue management was deployed was dur-

ing the wake of the Chernobyl nuclear accident in 1986. The RM department at Scandinavian Airlines System (SAS) sprang into action. The airline expected European-bound travelers from the United States to cancel flights during the peak summer months. To compensate, SAS increased overbooking on flights by 20 percent while adjusting demand forecasts downward. As a result, SAS could sell seats on flights that were already booked. By summer's end, the number of overbooked passengers who were denied seats had not increased over previous years. Consequently, SAS concluded that lost revenues from cancellations were minimized as a result of the RM strategy.

—M. Santosus

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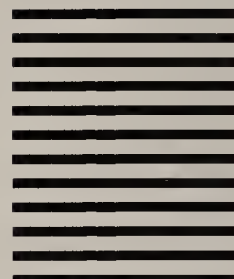
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How do they protect and process all the data? These are issues that the CIO has to deal with. People say that information is power, but overwhelming decision makers with a lot of data doesn't make them powerful. The data has to be filtered down. Then all the right information has to be disseminated to the people who need it. RM systems are invariably mission critical. They typically generate 3 percent to 7 percent increases in revenues, and they often have a very high return on investment. For many of the companies that we deal with, RM applications are the largest IT development effort. A recent study by KPMG Peat Marwick found that airline IT departments will spend more of their money on RM development than on any other development efforts over the next five years. So the role for the CIO is tremendous.

CIO: *Besides heavy involvement from the CEO and CIO, what are the key requirements to implementing a successful RM program?*

CROSS: The first is to have clearly defined objectives. You need to know exactly what you have to do and how to do it. One of the things we've seen that's critical is quantifying the benefits of RM. Organizations shouldn't go into a program because it's bound to be worth a lot of money; instead they need to know precisely how much money is going to be generated and where it will come from. And I wouldn't recommend starting an RM program with the goal of getting a 3 percent to 7 percent increase in revenues. All financial objectives should be expressed in specific dollar amounts. The goal of an airline might be to increase revenues \$52 million by filling 25 percent more business-class seats, for example. People really have to put their necks on the line and be accountable for that \$52 million.

CIO: *How do you come up with those hard numbers?*

CROSS: Typically, quantifying benefits can be done through simulation and modeling tools. Companies also need to establish a realistic implementation plan for an RM program that addresses the organizational changes in terms of people, processes and systems development. The other key requirement is for senior management involvement throughout the whole process, not simply at the start when setting objectives. Obstacles always come up, and it's the job of senior managers to clear them. And it's also their job to make sure that all the objectives are met.



For every dollar invested, revenue management systems can generate up to \$10 in revenues.

The one sure-fire way *not* to approach RM is to do it because other companies have made a lot of money. That makes the whole thing fuzzy and prone to failure.

CIO: *What impact does rapidly advancing technology have on RM practices?*

CROSS: In the 12 years since I've been involved in RM, technology has enabled us to do things we never could have dreamed of before.

For example, we can now look at every single customer transaction. Back when I was with Delta Air Lines, we never imagined we could look at individual passenger transactions. We had to do things like aggregate data and then sample the aggregates. With improvements in technology, it's feasible to look at every transaction, analyze every transaction and understand what is happening at the individual, micro-market level. Advanced technology also allows us to be much more precise in predicting customer behavior. We're able to look at the various customer segments and understand that they all behave a little bit differently. We can apply mathematical algorithms to predict what each of those segments is going to do. The final improvement is the ability to distribute all the products and information to the marketplace, often on a real-time basis. That allows companies to change their strategies and tactics on the fly; they don't have to live with an erroneous pricing strategy for weeks, days or even hours anymore.

CIO: *How will the Internet facilitate this process?*

CROSS: With the Internet, I see the return of the one-on-one transaction between a company and a customer. Down the road, I envision an electronic marketplace where individuals will be able to interact with large companies that offer thousands of consumer options. Customers will be able to get exactly what they want at the price they are willing to pay. That will be facilitated through the Internet, and it gets right back to the essence of maximizing your revenues in this dynamic micromarketplace by predicting what customers will want and how to deliver it at the right time at the right price. **CIO**

Senior Writer Megan Santosus can be reached at santosus@cio.com.

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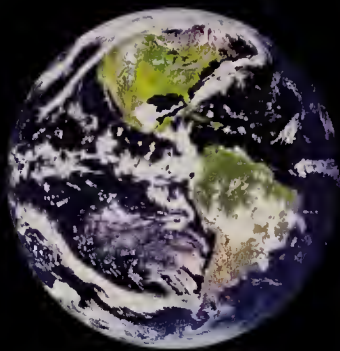


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Mixed Messages

The good news is that the top brass believes IT should drive strategy. The bad news is that unless CIOs boost their credibility, it may not matter what management believes, according to the seventh annual *CIO Magazine*/Ernst & Young executive survey.

BY JENNIFER BRESNAHAN



ILLUSTRATIONS BY JEFF MOORES

BY GEORGE, THEY'VE GOT IT! If you've told your colleagues once, you've told them a thousand times—IT should be part of the business strategy. Finally, the CEOs, CFOs, vice presidents and other senior managers are parroting your words back to you. But don't gloat yet: While the top brass may get the message, they have lingering doubts about the messenger. CIOs may be harming their credibility and endangering their chances to be strategic business players by ignoring key concerns their bosses and peers have about service delivery and project supervision.

As a result, managers and peers are considerably less impressed with their IS departments' performance than are CIOs. CIOs, in turn, can't understand why their organizations pay lip service to IT's strategic value but treat the department as a cost center and the information executive as a mere service provider and technology implementer.

THESE OBSERVATIONS EMERGED from *CIO Magazine's* seventh annual executive survey, co-sponsored by Ernst & Young LLP. The survey, which polled nearly 100 CIOs and their bosses and peers from a range of industries and corporations earlier this year, found that CIOs' misplaced attention may be costing them.

"CIOs have adopted an inward focus when they need to have more of an outward focus," says Joe Zuccherro, senior manager at Ernst &

Young Management Consulting in Irvine, Calif. "Take the Internet as an example. CIOs are concerned with, 'Do I have the right technology? Do people understand HTML? Java?' But the most important question really should be, 'Do my people know how to manage their work?' CIOs still need to keep up with the technology, but if they can't manage their business, the rest is secondary."

Some aspects of the survey suggest that CIOs are finally on the verge of obtaining the

Finally, your bosses and peers get the message you've been sending: IT should be part of business strategy.



SUCCESS ADDRESSED

What are the top critical success factors for CIOs over the next 5-10 years?

	CIOs	BOSSES	PEERS
1.	Responsiveness to business needs	Responsiveness to business needs	Responsiveness to business needs
2.	Providing a clear strategic technology vision	Controlling the cost of technology	Providing a clear strategic technology vision
3.	Controlling the cost of technology	Delivering quality solutions on schedule	Controlling the cost of technology

While all three groups agreed that IS should be linked to business strategy, delivering projects on time did not even register on the CIOs' scale.

respect and strategic positioning that they have fought so hard to gain. CIOs, bosses and peers all classified responsiveness to business needs as the most critical factor in determining a CIO's success over the next five to 10 years. Responsiveness in this context included selecting IT solutions to business needs that will help the company reach its strategic goals.

Despite this seeming synchronization of strategic mind-set, CIOs were out of step on several key issues with their colleagues, who had only lukewarm perceptions of how well CIOs are performing in that strategy role. Clearly, effective project management is the

key to the hearts of peers and bosses. Both groups emphasized the importance of delivering quality solutions on schedule and on budget.

Though CIOs acknowledged project deadlines and costs as the top two criteria that superiors use to measure their job performance, only *one* CIO considered meeting deadlines important to overall success. And less than 30 percent of CIOs mentioned project management as a core IS competency.

The problem, according to Bill Herald, director of Ernst & Young's Center of Technology Enablement in Vienna, Va., and an architect of the survey, is that many CIOs

spend their time with business strategy or technical competence and never get around to becoming good project or departmental managers. "That's death, essentially," he says. "You can excel in just one of them, but you'd better be damn good in the other two as well."

Zucchero agrees. "I have clients who apply the 2X rule to whatever their IS people tell them—twice as long, twice as expensive," he says. "If everybody says getting things done on time is the most important, that's project management. So why the disconnect?"

The survey also suggests that despite the time spent dwelling on IS strategic value, the old habit of thinking of IS as a maintenance

and service center is a hard one to break for everyone—including CIOs.

For example, CIOs overwhelmingly chose technical competence as the top IS core competency, while they ranked knowledge of the business a distant third behind team skills. Further, although half of the peers said that articulating a clear technology vision is an important success factor for CIOs, only about 30 percent of CIOs mentioned it. Those results suggest that CIOs are still focusing on the nuts and bolts of tactical implementation rather than delivering on the goods that they sold to management by arguing for IS to be in the strategic loop.

Peers and bosses are also slow to make good on their claims of understanding IT's strategic value. They may agree that it makes sense to include an IT guru in all crucial business plans, but the reality is that they'd rather their CIOs play a supporting, service provider role. Accordingly, they don't consider management skills such as communication with the CEO or recruiting new IS staff important for CIOs. As Zuccherro explains, "Most executives want to view CIOs as their technology partners, but they don't think they have the business acumen and un-

derstanding for business strategy. They want to tell CIOs what to do and have them do it. This is very different from what CIOs are striving for."

MISSING THE CRITICAL PATH

What are the top critical success factors for CIOs over the next 5-10 years?

	CIOs	BOSSES	PEERS
1.	Project completions and milestones met	Project completions and milestones met	Project completions and milestones met
2.	Actual costs to budget variances	Actual costs to budget variances	Actual costs to budget variances
3.	Surveys or feedback of user satisfaction	Surveys or feedback of user satisfaction	Quality of effectiveness of projects implemented

The conflict over the proper priorities for a CIO is causing frustration and resentment on all sides. As a result, none of the respondents has much faith in their companies' general attitude toward the IT organization, the involvement of senior executives in IT activities, or business unit managers' understanding of IT's potential. With the exception of the bosses' perceptions of their own involvement in IT ac-

Despite ranking strategic vision and responsiveness to business as important factors for success, all groups still focus on measuring IS performance on the operation or service level.



Apathy among peers toward the IT function is driven in part by their feeling that CIOs underestimate them.

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DIFFUSED ATTENTION

What are the important activities for CIOs to focus on?

Strategic IT planning	16%
Supporting/training users and customers	14%
Tracking/communication of IT trends and opportunities	12%
Recruiting, maintaining and motivating IS staff	13%

Percentages reflect CIO responses only. Respondents were allowed to pick more than one option.

Even the areas of focus that garner the most votes from CIOs drew fairly equal support. With so many demands, CIOs have no clear direction for where to spend their energies.

tivities and the peers' ranking of how well they themselves understand the potential of IT, both groups answered these questions with numbers in the vicinity of four on a scale of one to seven, with higher numbers indicating better understanding. That ranking suggests apathy on the part of peers and bosses toward their IT organizations, says Zuccherro. "[A score of] four pretty much means, 'I don't care.' You'd almost want the score to be one or two instead of four because apathy is a tough thing to deal with."

One explanation for the peer apathy might be resentment over being underestimated. Peers scored IT's strategic value higher than any other group, giving it an 8.88 on a scale of one to 10, while CEOs rated it 8.18 and CIOs, 7.87. But instead of leveraging their colleagues' awareness and support, CIOs assume that they don't grasp IT's importance; while peers rated their understanding of IT's strategic importance as a 5.59 on a scale of one to seven, CIOs gave them a 4.36, and bosses rated peers at an even four.

Unreasonable expectations may also account for peer ambivalence toward CIOs. According to the survey data, the vast majority of peers learn about new enabling technologies and their applications from business and technical publications. But these magazines often don't portray the full reality of implementing the technology, notes Celia Liu, Ernst & Young senior consultant and main survey architect. Business unit managers get fired up after reading an article, but only the CIO understands what it takes to implement it. "Today we have a very IT-literate population of managers," Liu says. "These people read articles every day about new technologies and develop a high set of expectations. They think, 'Well, we could be doing this, but we have squat.' The CIO's task is to help distill that information, to really know the technology and implementation issues, and to make reasonable promises in cost and

This Is Now; That Will Be Tomorrow

Technologies focus on information sharing

Judging by the enabling technologies chosen as the most important, the chief concern of survey respondents is improving how information is exchanged within their companies. Data warehousing, client/server migration and networking top the list for today's important technolo-

gies. The list of critical future technologies includes data warehousing, high-speed networking, the Internet, EDI and information sharing/management tools.

None of the bosses identified data warehousing as significant, but that omission doesn't necessarily mean they don't want or need it, says Mike Craig, senior manager at Ernst & Young in Atlanta and an expert on data warehousing. In fact, when executives say they need information-sharing tools, they may actually be asking for a data warehouse. "All CEOs say that they need more information, and that's what a data warehouse is," Craig says. "But unless they read about it or the CIO tells it to them, they don't really

know what the term means."

Data warehousing and other information management technologies are becoming widespread as more and more people discover the power of the Internet and intranets, says the Center of Technology Enablement's Herald.

Craig asserts, however, that data warehousing is only the first phase of a larger technology trend. "Data warehousing is a hot topic today, but I don't think it is going to be the hottest topic three years down the road," he says. Eventually, companies will integrate data warehousing with other information systems such as document management to encompass all of their data needs and sources. *-J. Bresnahan*

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is on the Internet,

will I have to explain

to management

what a Resident

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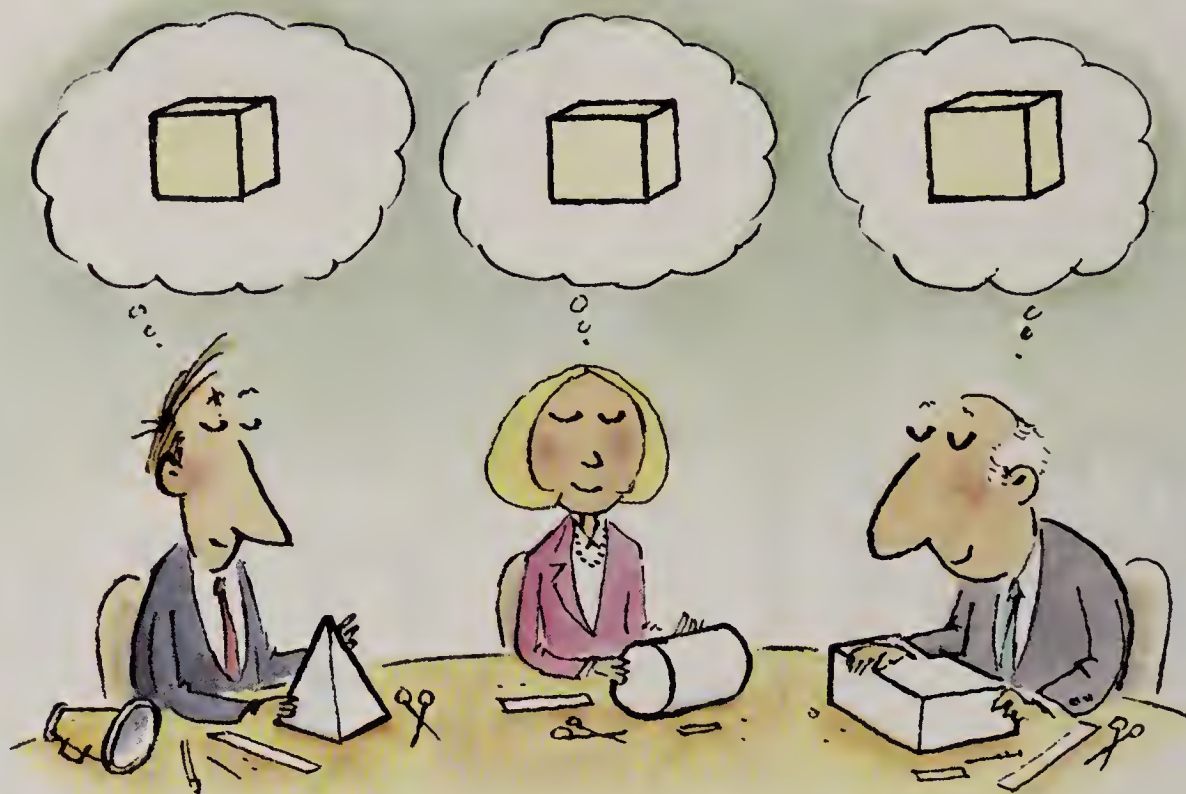
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While respondents from all three groups agree on IT's role, their ideas on how to execute that role differ vastly.



delivery time frame."

As for the CIOs, Zuccherro argues that they rank IT's strategic value so low because they are discouraged over their organizations' shallow display of support. In many cases, major

to desktop computers. "People say that IT is strategic, but when it comes down to funding, IT isn't being treated like other strategic projects," Zuccherro says. "That's why the CIO has a less strategic view than his peers. I think we have ourselves to blame because we've overrun costs so tremendously in the past that we have some credibility issues to fix."

Exhausted and demoralized, CIOs may well balk at this challenge. They've labored extensively to gain legitimacy and stability and apparently still have a way to go. Yet, the first battle is won; the major players in the companies surveyed understand on some level the necessity of IT's involvement in business strategy. The next step is to take what everyone already knows and make it reality. But before CIOs are unequivocally accepted as strategic business managers, they must first master the management of projects and deadlines. Whether they outsource or delegate, CIOs must get a better handle on the fundamentals before it matters whether the top brass has learned anything at all. **CIO**

For more detailed information on the study, contact study architects Peter Greis or Celia Liu of E&Y's Center for Technology Enablement at 703 903-5000.

NEED TO KNOW

What are the top IS core competencies?

Technical competence	85%
Team skills	53%
Knowledge of business	40%
Project management	24%

Percentages reflect sum of all respondents. Respondents were allowed to pick more than one option.

Though bosses and peers ranked vision and project management highly in other questions, no one emphasized the need for CIOs to get the skills to perform those duties well.

initiatives are launched in businesses without any thought of the IT department and whether it can deliver. And CIOs are being asked to prove payback on projects that are very difficult to quantify, such as transferring existing data from legacy systems

Staff Writer Jennifer Bresnahan can be reached via e-mail at jennifer@cio.com.

"Now that my
company is on
the Internet,
will a fancy
port scanner
algorithm make

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of my
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Gartner View: Bewitched, Bothered and Bewildered

Integration offers solutions to the application development crisis

BY BRENDAN CONWAY AND RICHARD HUNTER



Many IS organizations feel besieged by a software development crisis marked by long delays in delivering applications, growing backlogs, poor-quality software and escalating costs. To make matters worse, most IS managers and executives cannot peg the progress or status of a given application development (AD) project easily because of lax or inadequate tracking procedures.

To battle these critical project management difficulties, IS departments have traditionally cobbled together a set of tools and procedures—with little compatibility—from various vendors. But today many vendors are offering so-called “integrated” approaches that weave together methodologies and management tools that allow IS to take a more holistic view of the AD process.

While this integrated approach is no panacea, it can offer significant benefits, including increased application quality and developer productivity and the ability to develop predictable and repeatable processes. It also provides a vendor-supplied baseline of best practices at the outset of a project and then becomes a repository-driven engine for refining methods and techniques, collecting and maintaining measurements, and facilitating collaboration among the development team.

Gartner Group Inc. estimates that the ongoing use of this integrated approach is likely to increase the consistency and quality of the AD process and provide a development productivity improvement over manual approaches of at least 30 percent within three years.

METHODOLOGY: The Knowledge Component

A methodology captures AD experience by defining phases, activities, tasks and related deliverables of an AD project. A robust methodology usually provides an associated technique at an activity level, task level or both.

Commercial methodologies have long been mostly paper-based and have taken a “waterfall” approach, whereby development must be completed in fixed stages. But leading vendors now couple their methodologies with AD process management technology to support a mix of non-waterfall development methods, including rapid application development (RAD) methods that introduce pieces of application functionality as a project progresses rather

than in set cycles. Client/server methods in particular are growing more mature—they are addressing GUI design, physical design, application partitioning and testing—but will not be fully mature until 1998. In addition, object-oriented methods are emerging from the traditional methodology vendors to provide processes for object-oriented analysis and design techniques.

PROCESS MANAGEMENT: Working Together

Process management merges the discipline of managing the interdependent steps of software development with technology. Process managers provide an interactive repository for definitions and examples of roles and responsibilities, tasks, tools, standards, metrics and deliverables. The next generation of process management tools will emphasize the pieces most important to AD team members—workflow, greater collaboration and automating the flow of tasks, deliverables and approvals. Depending on user constituency, process managers can serve as planning or reference instruments. Process management is also becoming more tightly integrated with project-scheduling tools with respect to data exchange, metrics collection, resource scheduling and time reporting.

PROJECT MANAGEMENT: Competency Centers

Project management is a subset of process management for estimating, organizing and monitoring a specific software development project. Project managers are tools for devising optimal schedules, assigning appropriate levels of resources, tracking actual efforts versus budgeted efforts and reporting the status of projects.

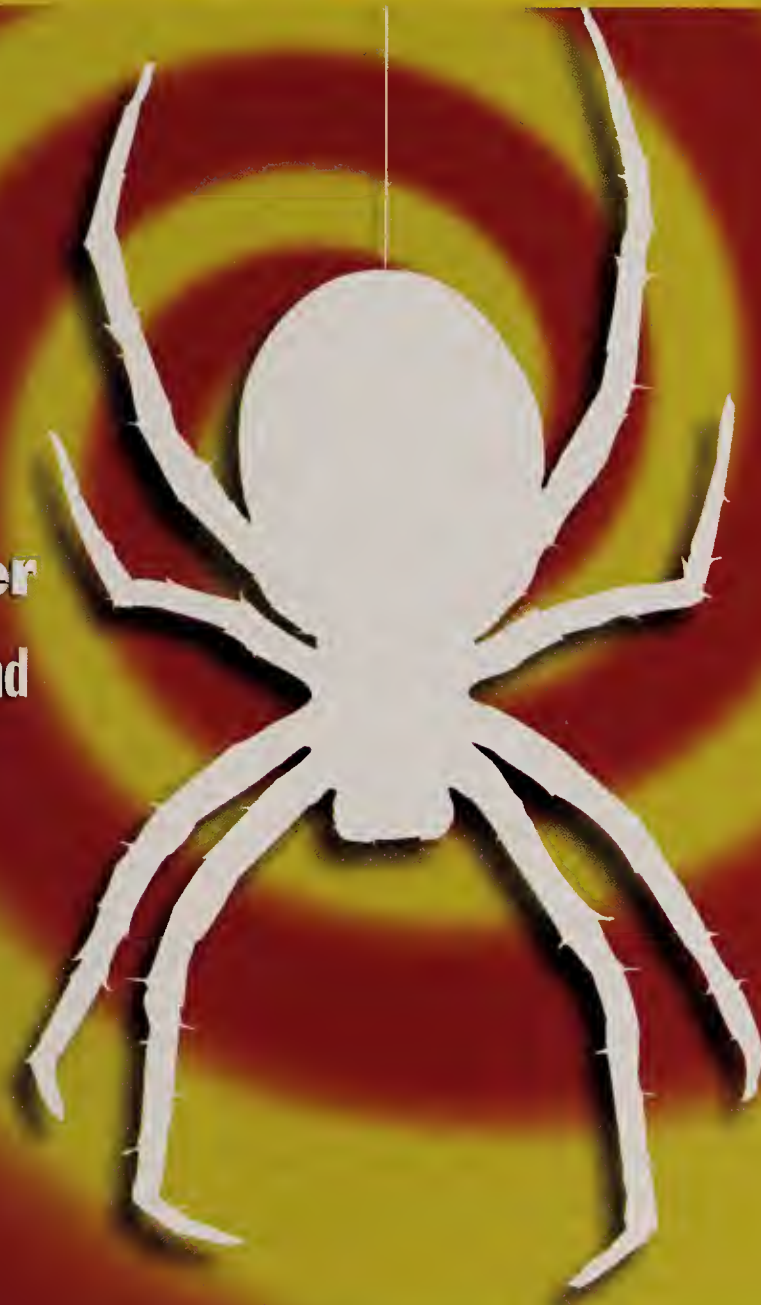
Project management tools are increasingly being integrated with other desktop applications through Microsoft Corp.’s generally accepted standards Dynamic Data Exchange, OLE and Open Database Connectivity. Scheduling engines are becoming common software features and no longer carry the cache to command premium pricing. Some IS organizations have determined that project management is a specialty and have created internal “competency centers” to provide the following:

- Guidance in AD methodologies, processes and measurements
- Information on best practices for software development

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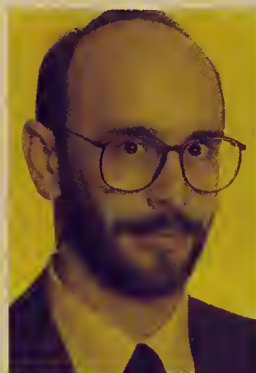
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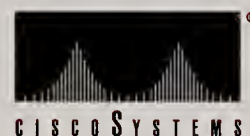
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SECA: SE/Companion	●	●
SHL Systemhouse: SHL Transform	●	●
Sterling Software: Key:Advise	●	●

- Services such as training and consulting
- Reuse of services such as project plan templates, estimating models and certain project-related deliverables

Costs and Benefits of Integration

Over a three- to four-year period, an integrated methodology, process management and project management approach will probably cost at least twice the initial price of the combined licensing and enabling services (such as training and customization). Variables affecting the total cost of implementing an integrated solution include a development organization's size, its culture and implementation horizon and its "maturity" level.

Development maturity is a concept pioneered by the Software Engineering Institute (SEI) at Carnegie Mellon University (see "The Science of Software Development," *CIO*, April 15.) Its Process Capability Maturity Model, which ranks an IS department's AD function based on its ability to be repeated, defined and managed, continues to intrigue many IS managers and executives—perhaps because 70 percent of AD organizations operate at the model's most remedial level. To reach more mature capability levels, many development groups have standardized on a methodology and are exploring emerging integrated approaches.

Vendor Analysis

Vendors of integrated solutions have diverse backgrounds that are often

evident in the depth of their methodologies, the extent of the techniques provided, the degree to which they are tool-neutral, the packaging and presentation of the methodology for commercial sale, and their commitment to knowledge transfer. Integrated solutions are available from the six general categories of vendors:

1. The Big Six consulting firms (e.g., Andersen Consulting and Ernst & Young LLP), which base their methodologies on real-world best practices. Their objective of tool-neutral solutions, however, can impede their techniques' robustness.
2. Computer-aided software engineering (CASE) vendors, most notably LBMS Inc. and Sterling Software Inc..
3. Specialized consulting companies (e.g., James Martin & Co.).
4. Non-Big-Six systems integrators (e.g., DMR Group Inc. and SHL Systemhouse Inc.).
5. CASE tool and methodology training companies (e.g., Platinum Technology Inc./Protellicess and SECA).
6. Project management vendors (e.g., AGS Management Systems Inc.).

Integrated solutions from all six categories of vendors are viable, and in the past two years vendors in different categories have formed several alliances and partnerships. Tool integration, partnerships and "co-opetition" partnerships, in which competitors exchange technology and royalties, are likely to accelerate through 1996; a period of increased mergers and acquisitions should follow through 1998. Overall, the AD

methodology/process management market is likely to grow 20 percent to 25 percent annually through 1997 and 35 percent to 40 percent annually from 1998 to 2000.

Solutions should be selected based on how they match organizational needs, which are often dictated by project types, company culture and the installed base of development tools (see box, at left). Solutions should be evaluated in the following areas:

■ **Methodology Breadth and Depth:** Sample criteria include support for an iterative development process including RAD and joint application development techniques; full life-cycle coverage from planning through implementation and maintenance; support for all types of applications, including mainframe (batch and online transaction processing) and client/server (GUI, data access and distributed function); support for package selection; support for projects of many sizes; a quality-assurance focus, including metrics, reviews, testing and standards; support for reuse and facilities for extending and customizing the methodology.

■ **Process Management:** The degree to which the methodologies are automated and delivered through a supporting toolset. Another important criterion in considering a toolset is the vendor's demonstrated commitment to knowledge transfer, training and mentoring as well as the vendor toolset's "usability," especially the ease of applying the methods.

■ **Project Management:** IS organizations should tailor and weight project management tool selection criteria to fit their own specific requirements (see box, Page 88). Higher-end project management tools provide comprehensive support for multiproject management and consolidation, multiproject resource sharing and leveling, and large-task networks. Lower-end tools provide much less capacity but are easier to use and implement.

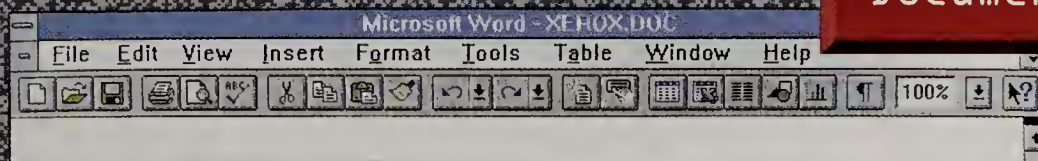
Implementing the Solution

Choosing a good methodology or inte-



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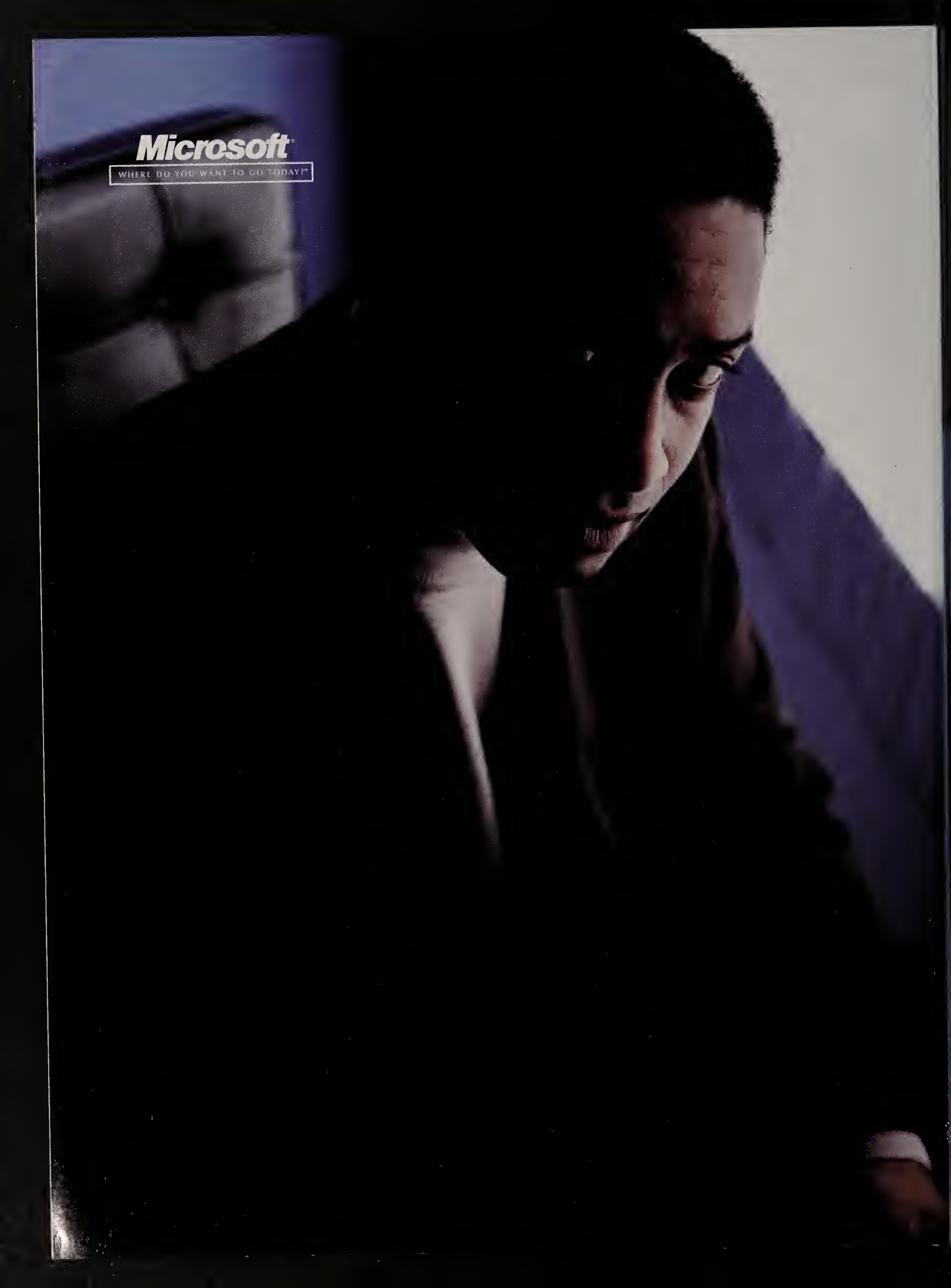
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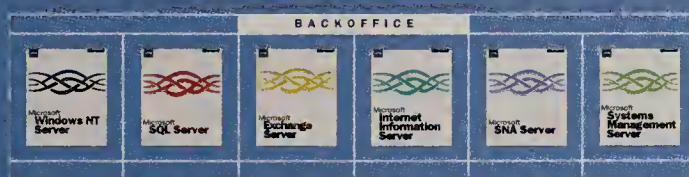
Rich text. Embedded graphics. Unlimited enclosures. It seems users have had every indulgence software makers can think of. Isn't it time someone thought of your needs? We have. And we think you'll be relieved to learn that, finally, there's a truly reliable messaging server now shipping. One with all the performance, security, and tracking features an administrator could want.

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Messaging Requirements	Microsoft Exchange Server v4.0	Novell® Groupwise 4.1	Lotus® Notes r4.0
Scalable to widest range of hardware*	YES	NO	NO
Integrated Centralized Management Tools	YES	NO	NO
Integrated Internet Access (SMTP/MIME)	YES	NO	NO
Integrated X.400 (1984&1988)	YES	NO	NO
Built-in Group Scheduling	YES	YES	NO
Built-in Groupware	YES	NO	YES



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Comparing Project Management Products

KEY: ● Very good ● Good ● Adequate ● Limited

	Front End Modeling Support	Robust Resource Management and Leveling	Multiproject Support and Consolidation	Support for Large-Task Networks	Time Capture and Recording	Chargeback
High End						
Primavera Systems Inc.: Primavera Project Planner	●	●	●	●	●	●
CSC Artemis International: Artemis Views	●	●	●	●	●	●
Low End						
Microsoft Corp.: Project for Windows	●	●	●	●	●	●
Time Line Solutions Corp.: Time Line	●	●	●	●	●	●
IS/AD-Targeted						
ABT: Project Workbench and Bridge Modeler	●	●	●	●	●	●
Platinum/Protellics: Enterprise PM	●	●	●	●	●	●
PlanView Inc.: PlanView	●	●	●	●	●	●
Integrated Process and Project Mgmt.						
AGS Mgmt. Systems Inc.: First Case	●	●	●	●	●	●
Bachman Information Systems Inc.: Serveyor	●	●	●	●	●	●

grated solution is no guarantee that a company can make it stick. The solution should fit the direction of the IS organization: If 70 percent of upcoming work in a software development department will involve an enterprise application packages such as those from PeopleSoft Inc. or SAP America Inc., the right solution will provide an efficient process for package-based implementation. A methodology must also support key strategic directions. If, for example, the IS organization plans to emphasize software reuse in design and implementation, candidate methodologies must clearly spell out the procedures and infrastructures needed to support reuse. In addition, management should seek methodologies that have been successful on vendor-managed projects. If the company has previously tried a methodology and failed, the vendor's approach to training, mentoring, knowledge transfer and other support issues are as important as the methodology.

Critical Success Factors

This sort of organizational change is complex and failure-prone. Critical success factors include the following:

- **Performance Incentives:** Performance ratings should be based in part on adherence to the methodology. That should be clear to all, and management must follow through at rating time and in the measurement process that precedes the ratings.
- **Measurement:** Measurement is

needed for process and for performance. Process measurement is aimed at changes in two to six targeted business drivers. If time to market is a driver, measurements are needed for project size and person-days required to complete the project. Performance measurement involves tracking individuals for adherence to the solution; such measurements should be done at various points during a project, not just at the end.

- **Frequent Milestones:** Methodology implementation goals should be scheduled for every three to six months. A small AD organization (30 to 40 developers) should be able to fully implement a methodology in less than a year and thus enjoy an advantage over larger organizations.

- **Vendor Support:** Vendor support is essential in the first six to 12 months for methodology training, process-management toolset support and enabling services. Vendor services should not include AD project management or other application delivery services unless the AD shop's goal is to acquire a project management vendor as well as a methodology.

Methodology is taken quite seriously by the Big Six and other large systems integrators: They have large staffs to maintain a company's methodology, propose and monitor improvements, and support project managers in its use. Purchasers of Big Six methodologies that do not use a similar approach will likely fail

in implementation. Without dedicated in-house support, few if any users will be able to make sense out of the typical Big Six methodology. A Big Six methodology support model should be structured to include these three distinct classes of participants:

- **Methodologist:** Knows the methodology, collects feedback on it and maintains it. Consults with project managers to develop customized project plans.
- **Project manager:** Works with the methodologist to tailor its use to specific project requirements.
- **Developer/participant:** Knows the techniques and procedures to execute assigned tasks.

No Surrender

Rather than surrender to a development crisis, IS management can take the initiative. Integrated solutions offering a path to predictability and process improvement across the AD function can provide the reinforcements necessary to relieve the siege mentality endemic in many AD organizations. Combining methodologies with management technologies emphasizing workflow, collaboration, scheduling engines and better integration with desktop applications offers a cost-effective solution to AD woes. **CIO**

Research Directors Brendan Conway and Richard Hunter can be reached at INQUIRY@Gartner.com.

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Getting There from Here

New technologies transfer information seamlessly back and forth between paper and digital formats

BY JOHN EDWARDS

CIOs often find themselves straddling the gap between the paper and digital worlds: Despite oft-referenced predictions of the paperless office nirvana, companies still shuttle around much of their critical information on reams of pulp product.

Finding a fast and cheap way of getting paper-based information into computers and, later, back onto paper has been the goal of a generation of IT managers. But rapidly evolving technology is finally helping information travel seamlessly between the two formats.

Printing it Out

One way organizations are getting computers and paper to work together more efficiently is through a new business model called "distribute and print." Distribute and print inverts the practice of printing and

copying documents at a central location for distribution by interoffice mail, the Postal Service or an overnight carrier. With distribute and print, an organization disperses information electronically and prints locally, usually at a printer located at the recipient's workstation or workgroup. The model promises to all but replace an organization's printing and copying center as well as significantly cut postal and other distribution expenses.

"Distribute and print can be a much cheaper and simpler process than the traditional publishing model," says Carolyn Ticknor, vice president and general manager of Hewlett-Packard Co.'s LaserJet Solutions Group, based in Boise, Idaho. "When you take into account postal fees and overnight express charges, it's almost always cheaper to send out the information electronically and print locally," she says. Ticknor notes that for senders, distribute and print can shorten a cumbersome production process into a single step. "Under the old method, you would output the document on your printer, bring it down to the glass room to run it through the copier, and then you would give it to your assistant to mail. With distribute and print, documents can be sent with only a few keystrokes."

The greatest benefit of distribute and print is the timely delivery of information—"just in time" printing, as many call it, says John Goetz, director of the imaging technology service in the Santa Clara, Calif., office of Giga Information Group Inc., a technology research company. He notes that information sent electronically for printing at a remote site can arrive anywhere from hours to days ahead of printed materials. "If one needs to quickly get printed documents into the hands of a group of



users, distribute and print can be an effective way of doing so," he says.

Although distribute and print can get high-quality information into users' hands quickly, the model isn't always as cost-effective or efficient as many of its advocates would like people to believe. "With distribute and print, you sometimes see print volumes actually increase," says Goetz, who explains that recipients typically print and discard several copies of computer-stored documents during the information's useful life span. "People don't safeguard locally printed documents as carefully as printed information that's handed to them," he observes. "Users generally don't think twice about printing out a document, discarding it and then printing it again when the need arises."

Printing on low-end workstation and workgroup printers and copiers, as opposed to more efficient high-volume publishing units, can also drive up costs, says Goetz. "An organization that currently pays 1.5 to 2 cents per page for documents generated on a high-speed copier or printer can find itself paying 10 to 15 cents per page for documents printed on individual users' ink-jet printers," he explains. "It's a cost factor that anyone considering distribute and print will want to think about."

The model is best suited for use with smaller documents that individual users can print within a reasonable span of time. "There will always be a place for glass room printing applications—100-plus-page user manuals, for example," says HP's Ticknor. "But the majority of information comes in the form of letters, memos and reports, which are ideal for distribute and print."

Although the distribute-and-print model can be used with a wide array of word processing and desktop publishing applications, many organizations prefer to work with a document publishing program. Material printed at a remote location with such programs as Adobe Systems Inc.'s Acrobat, Common Ground Software Inc.'s Common Ground or

Novell Inc.'s Envoy can retain most or all of the original document's look, including its layout, typefaces and graphics.

**"It takes a lot less time
to scan a document
and send it to
a distribution list of
20 people than to
copy it 20 times
and send it out
by interoffice mail."**

—Judy Kirkpatrick

The platform independence offered by document publishing programs makes such applications well-suited to the distribute-and-print

still struggling to cope with another nagging problem: transferring printed information from paper into a computer-usable form.

Most companies currently use optical character recognition (OCR) scanners to convert their paper assets into a format that can be archived, shared by network users and then printed locally. However, this common technology has been hampered by a couple of major drawbacks—scanning inaccuracy and the inability to preserve the document's original format.

One solution to this dilemma is offered by Adobe's Acrobat Capture software. An add-on to Adobe's Acrobat document publishing program, Acrobat Capture is designed to help users transform everyday business and legacy documents into editable, searchable files that closely resemble the original printed page when displayed or printed.

After a document page has been scanned, Acrobat Capture breaks the

Distribute and Print

Advantages

- Lower postage costs
- Shortened document production process
- Nearly instantaneous document delivery
- Better quality than faxed or photocopied documents

Disadvantages

- Potentially higher printing costs
- Not practical for larger documents
- Compatible software required to retain document's original look

model, says Judy Kirkpatrick, market development manager at Adobe. "With Acrobat, users can choose to send their documents through online services, via CD-ROM or across the Internet or World Wide Web without worrying about whether the computer on the other end is using a PC, a Macintosh, a Unix workstation or whatever."

Putting it In

While distribute and print can help companies streamline document distribution, many organizations are

information into core components, including text, graphics and fonts, for processing. The program accommodates lower-quality documents, such as those degraded by faxing or rough handling, by displaying best-guessed "suspect" words as bitmapped images. If users want to approve or correct suspect words, change fonts or perform minor edits, they can save files intermediately to an Acrobat Capture Document (ACD) format. Once the editing is completed, Acrobat Capture can output formatted text to a variety of Windows

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or Macintosh word processing formats or to ASCII or rich text format (RTF). For best results, Acrobat Capture produces an Acrobat PDF file that is an exact electronic version of the paper document and can be transmitted, displayed and printed on most major computer platforms, including PCs, Macintoshes and Unix workstations.

Customers are using Acrobat Capture technology for a variety of tasks, such as making archival materials readily available to networked employees and business partners, storing annotated documents, inputting customer orders and entering competitors' sales information. Adobe is using the technology to monitor press clippings about itself. "Any newspaper or magazine article that mentions us gets scanned in and distributed on demand as an e-mail attachment," Kirkpatrick says. "We find that it cuts down on paper and is very efficient. It takes a lot less time to scan a document and send it to a distribution list of 20 people than to

of scanners is still in its infancy. "In the years ahead, scanners will become commonplace network periph-

**Information sent
electronically for
printing at a remote
site can arrive
anywhere from hours to
days ahead of printed
materials.**

erals," she predicts. "Users will routinely turn their paper documents into digital information and send them across the network."

Moving it Around

Incoming fax documents are another example of how organizations are looking for ways of inputting paper-

turn to an outside provider to help them deal with incoming documents. Spotting this trend, AT&T Corp. recently introduced a fax-to-data service that automatically converts incoming faxes into computer data for delivery into e-mail, EDI and other messaging formats. The service is being targeted to organizations that handle high volumes of incoming warranty registrations, purchase orders, order entries and other forms-oriented documents.

The service uses a variety of technologies to convert the information. OCR extracts typed or handwritten information; intelligent character recognition (ICR) verifies the extracted material by comparing it with customer-supplied information contained in a database; and optical mark recognition (OMR) identifies fields not covered by OCR, such as filled-in circles and check marks. Users can also have human operators review the converted data for accuracy.

Many businesses set themselves up for OCR problems by failing to take control of the input process and enhance the accuracy of the technology, says Mitch Kosofsky, a marketing manager for AT&T's EasyCommerce Services. "There are certain technologies that can be designed into a form, such as 'fill-in-the-dot,' that lend themselves to a very high degree of accuracy. If you want to reduce manual intervention, it's always better to use forms with spaces for dots or check marks rather than words or numbers," he says. Kosofsky notes that carefully designed forms can boost accuracy rates from about 75 percent to over 99 percent.

"In this day and age, paper-oriented information is something most companies would rather do without," says Kosofsky. "But since it's unavoidable, it's important that you think and plan ahead." 

John Edwards is a freelance writer based in Mt. Laurel, N.J. He can be reached by e-mail at 70007.412@compuserve.com.

Editable Document Imaging

Advantages

- Lower paper, distribution and document storage costs
- Rapid document availability with original look

Disadvantages

- Requires scanner
- Less-than-perfect scanner accuracy
- Special software required

copy it 20 times and send it out by interoffice mail."

The \$895 Windows-based product requires at least 16MB of RAM. Acrobat Capture supports virtually all Windows-based flatbed scanners, either through the industry-standard Twain driver or through the software's Isis drivers. Since Isis is specifically designed to handle batch processing, it offers better support for users with stacked scanners.

HP's Ticknor sees OCR scanners playing an increasingly important role in the future. She describes scanners as "an onramp to the network," adding that the business use

oriented data to save time and increase efficiency. But here, too, substantial progress is being made in accuracy and ease of use.

While it's easy for any computer to intercept a fax as a bitmapped image that can be printed either locally or remotely, it's far more difficult to convert a fax image into a computer-usable form. Although a variety of off-the-shelf fax programs offer users the ability to transform fax data into computer data, the performance and throughput of such applications usually don't meet the needs of high-volume users.

High-volume fax recipients often



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Totaal, LAN Magazine, LanWorld Buyers Guide, Macworld, Net Magazine, Totaal! Beurskrant; **New Zealand:** Absolute Beginner's Guide, Computer Buyer, Computer Industry Directory, Computerworld New Zealand, E2 Electronic Entertainment, MTB, Network World, PC World New Zealand; **Nicaragua:** PC World Costa Rica/Nicaragua; **Nigeria:** PC World Nigeria; **Norway:** CAD/CAM World Norge, Computerworld Norge, Computerworld Privat (Datamagasinet), CW Rapport Norge, IDG's KURSGUIDE, Macworld Norge, Multimedia World, PC World Ekspres, PC World Netverk, PC World Norge, PC World's Produktguide, Windows World Special; **Pakistan:** Computerworld Pakistan, PC World Pakistan; **Panama:** PC World Panama; **P.R. of China:** China Computer Users, China Computerworld, China Infoworld, China Telecom World Weekly, Computer & Communication, Electronic Design China, Electronics Today, Electronics Weekly, Game Camp, Game Soft, Network World China, PC World China, Popular Computer Weekly, Software Weekly, Software World, Telecom World; **Peru:** Computerworld Peru, PC World Professional Peru, PC World Peru; **Poland:** Computerworld Poland, Computerworld Special Report, Macworld, Network, PC World Komputer; **Philippines:** Computerworld Philippines, PC World Philippines, Publish in Asia; **Portugal:** Cerebro/PC World, Computerworld/Correio Informático, MacIn/PCIn, Multimedia World Portugal; **Puerto Rico:** PC World Puerto Rico; **Romania:** Computerworld Romania, PC World Romania, Telecom Romania; **Russia:** Computerworld Russia, Mir PK, Sely; **Singapore:** Computerworld Singapore, PC World Singapore, Publish in Asia; **Slovenia:** MONITOR; **South Africa:** Computing S.A., InfoWorld S.A., Network World S.A., Software World; **Spain:** Computerworld España, COMUNICACIONES WORLD, Dealer World, Macworld España, PC World España; **Sweden:** CAP&Design, Computer Sweden, Corporate Computing, MacWorld, Maxi Data, MikroDatom, Natverk & Kommunikation, PC/aktiv, PC World, Windows World; **Switzerland:** Computerworld Schweiz, Macworld Schweiz, Pctip; **Taiwan:** Computerworld Taiwan, Macworld Taiwan; **PC World Taiwan;** Publish Taiwan; **Windows World;** **Thailand:** Thai Computerworld, Publish in Asia; **Turkey:** Computerworld Monitor, MACWORLD Türkiye, PC Games, PC WORLD Türkiye; **Ukraine:** Computerworld Kiev, Computers & Software, Multimedia World Ukraine, PC World Ukraine; **United Kingdom:** Acorn User, Amiga Action, Amiga Computing, AppleTalk, Computing, GamePro, Lotus, Macaction, Macworld, Network News, Parents and Computers, PC Advisor, PC Home, PSX Pro UK, The WEB; **United States:** Cable in the Classroom, CD Review, CIO Magazine, Computerworld, Computerworld Client/Server Journal, Digital Video Magazine, DOS World, Federal Computer Week, GamePro, InfoWorld, i-Way, JavaWorld, Macworld, Maximaze, Multimedia World, Netscape World Online, Network World, PC Entertainment, PC World, Publish, SunWorld Online, SWATPro Magazine, Video Event, WebMaster; **Uruguay:** PC World Uruguay; **Venezuela:** Computerworld Venezuela, PC World Venezuela; and **Vietnam:** PC World Vietnam.

Do-it-Yourself Outsourcing

Some people think outsourcing vendors achieve savings through economies of scale, but at least 50 percent of the cost reduction comes from the use of sophisticated tools that control the costs of IT infrastructure—equipment, software, people, contracts and facilities, according to Peter Bendor-Samuel, president and CEO of Everest Software Corp. in Dallas. As a result, Everest Software has released a suite of outsourcing management tools that helps companies derive the cost savings of outsourcing without having to sign any contracts.

These desktop tools will give users the ability to understand and curb their infrastructure costs and will save them between 20 and 40

percent of their data processing costs, according to the company. For those considering outsourcing primarily for the savings, Everest's tools may be the alternative they need. For others that chose to outsource anyway or that have already signed a contract, the software can help track costs and invoices from the vendor and allocate costs to departments. It will also keep track of service-level agreements—uptime, response time and the like—to help hold the vendor accountable.

The software is compatible with Microsoft Corp.'s Windows NT and Windows 95 and ships with a Borland International Inc. database. It is priced at \$8,000 per user seat and can accommodate up to 100 users. Modules of the suite, such as Chargeback and Budget Management, are available individually. To contact Everest Software, call 214 437-7634.

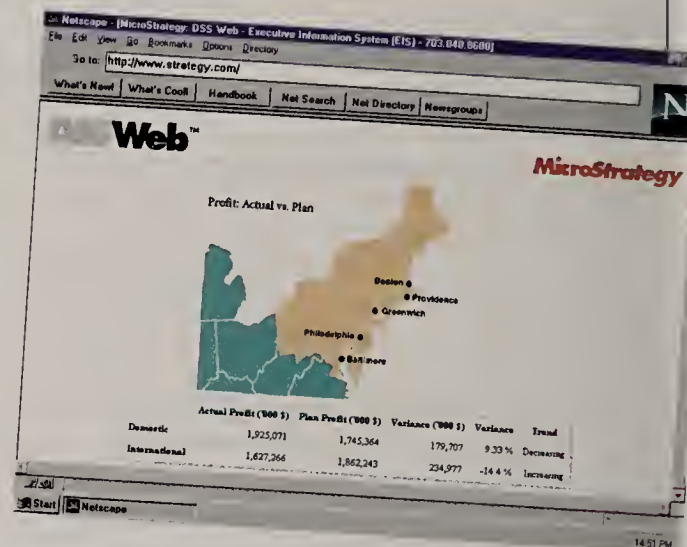
Easy OLAP

Think of it as a convenience store for data warehouse information. DSS Web, a new application announced by MicroStrategy Inc. in Vienna, Va., enables users to conduct online analytical processing (OLAP) via the World Wide Web. Using DSS Web, Internet browsers can easily access statistics, reports, graphics and other valuable data warehouse information.

Through integration with MicroStrategy's DSS Server, DSS Web allows Internet users to perform advanced OLAP analyses against worldwide data warehouses. Penetration, contribution, quarterly comparisons and other calculations are accessible through DSS Web, which also provides ad hoc autoprompting and drill-down capabilities, complete with presentation-quality charts and graphs.

DSS Web gives companies the ability to offer decision-support services to employees, investors, suppliers and customers, no matter where they are located. Because the system is server-based, users assume no deployment or maintenance responsibilities.

DSS Server's relational OLAP engine provides access to various databases,



such as Oracle, Informix, DB2, Sybase, Red Brick, Teradata and Non-Stop SQL. DSS Web can be reached through such browsers as Netscape, Spyglass Mosaic, Internet Explorer, CompuServe and Prodigy, as well as through the Netscape Communication and Commerce server, Website and IIS Web Servers.

DSS Web is available from MicroStrategy and affiliated distributors. Pricing for a package that includes DSS Web and DSS Server starts at \$50,000 and varies with concurrent user levels.

For more information, call 703 848-8600, send e-mail to info@strategy.com or visit MicroStrategy's Web site at <http://www.strategy.com>.

Forget-Me-Naught

You've bought a new, mega-memory laptop for the road and you're running a space-eating program, and now it's time to back up your data. What do you do? Well, you can amass a bunch of individual disks—several just for an operating system such as Windows 95—or you can use a single-cartridge Backpack 800TD backup drive from Micro Solutions Inc. of Dekalb, Ill.

Using Travan TR-1 tapes, Backpack 800TD stores up to 800MB of data—the equivalent



of approximately 600 floppy disks—on a single, integrated backup drive. Designed exclusively for parallel-port attachment, Backpack 800TD eliminates the components that were previously required to adapt an internal-mount drive for external use. A user simply plugs the unit into the parallel port of a computer and it's ready to go.

Users can work at their computers while the device is operating. Backpack 800TD is lightweight and compatible with both portable and desktop computers. Priced at \$149.95, it includes backup software for Windows and DOS, a printer pass-through port and a two-year warranty. Call Micro Solutions at 800 890-7227.

APPLICATION FORM

THE FIFTH ANNUAL CIO ENTERPRISE VALUE AWARDS

*Honoring Business Achievement
Through The Innovative Use
Of Information Technology*

APPLICATION DEADLINE: JULY 1, 1996

Sponsored by CIO Communications, Inc.

The Enterprise Value AwardsSM

*Honoring Business Achievement Through
The Innovative Use Of Information Technology*

SPONSORED BY



CRITERIA

Winners will be chosen by a panel of independent judges from among entrants who have submitted completed application forms to *CIO* by July 1, 1996. Entries will be judged on the following criteria:

- The extent to which the system adds business value in furthering the organization's strategic objectives
- The measurable financial return the system provides to the organization
- The extent to which IT was key to achieving the overall business solution—the “couldn't have done it without technology” factor
- The quality of collaboration between the business unit and IS organization that is achieved throughout the course of the project

Each finalist will be subject to an in-depth analysis of the nominated system (to be performed by *CIO* or its agents). This analysis, which may require a site visit, will be based on interviews with sponsoring executives and system users and will be designed to substantiate all claimed benefits. Notification of winners will occur in October 1996. *CIO* reserves the right to publish relevant cost and savings figures that establish the claimed ROI of the system; *the willingness to divulge this information for publication is a condition of entry.*

DEFINING VALUE

We invite applicants to consider the broadest possible spectrum of enterprise value. The following list of IT-enabled benefits is intended to help guide applicants' thinking:

- new, innovative and more productive ways of doing business;
- revamped organizational structures or styles of performing the work of the enterprise;
- the ability of the enterprise to enter a new market;
- successful global operation or expansion;

- transformation of the way the enterprise competes within its customary market or of the terms of competition within the market;
- improvement of the enterprise's relationships with its external customers;
- improvement of the enterprise's relationships with its own employees or among its functions (such as marketing, finance or human resources);
- the ability of the enterprise to compete more effectively by adding to the sum of its available knowledge assets;
- leaner and more economical operations.

ENTRY GUIDELINES

- The system must have been operational prior to July 1, 1994.
- Entrants must agree to be featured, along with their systems and organizations, in a *CIO* article.
- Entries must be complete.
- Entries must be on 8.5-by-11-inch paper, one side per sheet.
- The application form may be reproduced.
- Multiple entries from one company will be considered, but each entry must be submitted separately.
- Entries must be made jointly by the IS executive *AND* the business sponsor for whom the system delivers value.
- IT vendors, public relations and advertising companies, consultants and other third parties may *NOT* apply on behalf of another company. They are encouraged to forward this form to the “owner” of the system, or to contact *CIO* Communications to recommend that an application form be sent to the client.
- All entries must be computer generated or typed; no handwritten entries will be accepted.
- When feasible, an additional copy of the entry should be sent on a 3½ -inch disk. Electronic entries must be limited to word-processing and spreadsheet packages that are compatible with Microsoft Word and Microsoft Excel on a Windows or Macintosh platform.

The Ultimate Accolade of Business Success



SCULPTURE BY DAVID SHAPIRO. PHOTO BY RALPH MERCER

HONOR. RECOGNITION. PRESTIGE.

The value of IT. It's real. You know it, and you've proved it. Your organization is actually realizing business value and hard-dollar benefits from IT investments. And although the payback is its own reward, the CIO Enterprise Value Award will bring you, your company and your IT organization the industry recognition you all deserve!

POSITIONING IT AS A BUSINESS ASSET

Yet the CIO Enterprise Value Award goes beyond recognition. It is an opportunity to provide hard, tangible facts about ROI from information technology to the business community at large. It is an opportunity to demonstrate how partnering between business and technology executives can lead to the achievement of strategic objectives. By communicating the payback, *CIO* hopes to encourage other businesses to invest wisely in IT to ensure their survival in a fiercely competitive global market.

DO YOU QUALIFY FOR AN ENTERPRISE VALUE AWARD? FOUR CRITERIA ARE ESSENTIAL:

1. A return of value to the enterprise (see "Defining Value" within this application)
2. A measurable financial return attributable to the system
3. The pervasiveness of information technology—in other words, the strategic objective could not have been met without IT's contribution
4. Collaboration between an IT and business executive

If your innovative solution meets the above criteria, please fill out this Enterprise Value Awards application form. The Feb. 1, 1997, issue of *CIO* will feature profiles of the winning organizations and the executives who have proved that their strategic technology investments have had a positive and sustained impact on enterprise value.

In February 1997, *CIO* will host a special awards ceremony honoring the Enterprise Value Award winners at the annual CIO Enterprise Value Retreat.

For more information, please contact Lisa Kerber at (508) 935-4449.

ENTERPRISE VALUE AWARDS TIMELINE

APPLICATION DUE: July 1, 1996

JUDGES SELECT WINNERS: October 1996

WINNERS ANNOUNCED: October 1996

AWARDS CEREMONY: Feb. 2-5, 1997
at the CIO Enterprise Value Retreat

1. COMPANY/BUSINESS UNIT

▲ NAME OF PARENT COMPANY

CITY, STATE WHERE HEADQUARTERS ARE LOCATED

PUBLICLY OR PRIVATELY HELD?

ANNUAL REVENUES

INDUSTRY

NAME OF BUSINESS UNIT OR ORGANIZATION

CITY, STATE WHERE LOCATED

NUMBER OF EMPLOYEES AT BUSINESS UNIT

2. ENTRANTS

A.

▲ NAME OF ENTERING I.S. EXECUTIVE

TITLE

NAME OF DIVISION, DEPARTMENT OR UNIT

ADDRESS

CITY

STATE ZIP

() ()

TELEPHONE FAX

B.

▲ NAME OF ENTERING BUSINESS-UNIT EXECUTIVE

TITLE

NAME OF DIVISION, DEPARTMENT OR UNIT

ADDRESS

CITY

STATE ZIP

() ()

TELEPHONE FAX

3. SUPPORTERS

Please list four people who are willing to be interviewed with regard to the system, its development, its use and the value returned. At least one should be a member of the technology team that developed the system and should have played a significant role. At least one should be a primary user from the sponsoring business unit. The other two may be from either organization or represent suppliers, customers or others intimately familiar with the system.

A.

▲ NAME

TITLE

() ()

TELEPHONE FAX

REASON FOR INCLUSION

B.

▲ NAME

TITLE

() ()

TELEPHONE FAX

REASON FOR INCLUSION

C.

▲ NAME

TITLE

() ()

TELEPHONE FAX

REASON FOR INCLUSION

D.

▲ NAME

TITLE

() ()

TELEPHONE FAX

REASON FOR INCLUSION

DEADLINE:
JULY 1, 1996

MAIL TO:

ENTERPRISE VALUE AWARDS
CIO COMMUNICATIONS, INC.
492 OLD CONNECTICUT PATH
P.O. Box 9208
FRAMINGHAM, MA 01701-9208

4. THE NOMINATED ORGANIZATION

Please tell us about your organization (company, business unit, agency) in 500 words or less. Include information on:

- when the organization was founded;
- mission statement;
- major products and services;
- markets served;
- any other data you believe to be relevant in terms of general background.

5. THE NOMINATED SYSTEM

Tell us about the nominated system and demonstrate its importance to the organization by completing the following sections. Please limit your material to two pages.

SYSTEM DESCRIPTION: In one sentence or less, describe the system or IT initiative you are nominating (e.g., order-entry or document-management system; switch to a client/server architecture).

TECHNICAL PROFILE: Briefly describe the technology of the nominated system. Please include the names of major vendors and products. (NOTE: The examples provided here are meant to be illustrative, not all-inclusive.)

- **ARCHITECTURE** (e.g., client/server, mainframe)
- **HARDWARE** (e.g., mainframe/parallel processor, mini-computer/server, PCs, handheld devices)
- **SOFTWARE** (e.g., operating systems, database system, shells, application software)
- **SOFTWARE DEVELOPMENT TOOLS** (e.g., CASE, 4GLs, GUI developers, object-oriented development tools)
- **NETWORK/COMMUNICATIONS HARDWARE, SOFTWARE AND SERVICES** (e.g., modems, routers, e-mail packages, carriers and public networks)

6. BUSINESS IMPACT

Describe the primary business objectives of and value delivered by the IT investment. Please limit this section to five pages.

SCOPE AND IMPACT: Identify the functions (e.g., customer service, manufacturing, planning) that were changed by the system, the nature of those changes and their impact on the business.

STATEMENT OF VALUE: In one or two sentences, describe the business value delivered by the nominated system (please refer to "Defining Value" section on the first page of the application form).

BUSINESS VALUE DESCRIPTION: In detail, describe *how* the system delivers the value identified above. Also describe any added value delivered, whether intentionally sought or serendipitously encountered.

THE IMPORTANCE OF IT: Identify the different components of the overall business change (e.g., business reengineering, downsizing, cycle times). Explain the importance of the IT component to the overall business change. Could the results have been achieved without IT?

COLLABORATION: Describe how the business unit and IS organization worked together throughout the project, from concept to implementation. What were the specific tasks fulfilled by the business unit? The IS organization?

7. QUANTIFYING ROI

Provide a detailed, one-page summary of the nominated system's investment costs (including all upfront development expenses and annual maintenance charges). Also provide estimates of returns (including increased profits,

reduced costs and indirect cost-avoidance). Estimates of costs and returns should be made per annum over a five-year period.

8. TRUTH OF INFORMATION/RELEASE

The following release must be signed by both nominating executives if the application is to be considered. *Unsigned releases will invalidate the entry.*

I HEREBY STATE that the information provided is true and complete to the best of my knowledge and belief.

I AUTHORIZE the release and use of, in connection with the Enterprise Value Awards program, any and all materials furnished by me or others at the company contacted for this judging. I understand that information submitted on this application or subsequently gathered during the evaluation and judging process may be used in articles or any other type of publicity relating to the Enterprise Value Awards program.

I ALSO AUTHORIZE the release and use of my name, my company's name and my likeness, including but not limited to any photographs and any recording of my voice or image that may be taken of me for *CIO Magazine*. I agree that no compensation shall be due me or my company for such usage.

I RECOGNIZE that failure to meet these conditions or to provide sufficient material that can be published can cause the application to be rejected at any point in the process at the sole discretion of the sponsors.

1.

▲ SIGNATURE OF NOMINATING I.S. EXECUTIVE

DATE

2.

▲ SIGNATURE OF NOMINATING BUSINESS EXECUTIVE

DATE

9. OTHER EDITORIAL OPPORTUNITIES

If you are not selected as an award recipient, are you willing to be contacted for inclusion in other articles in *CIO Magazine*? YES ☐ NO ☐

How did you learn about the Enterprise Value Awards program?

- | | |
|---|--|
| ☐ CIO MAGAZINE | ☐ ACADEMICIAN |
| ☐ CONSULTANT | ☐ IS STAFF MEMBER |
| ☐ SYSTEMS INTEGRATOR | ☐ OTHER PUBLICATIONS |
| ☐ PR AGENCY | ☐ VENDOR |
| ☐ ADVERTISING AGENCY | ☐ OTHER (PLEASE IDENTIFY) |

CHECKLIST

HAVE YOU FILLED OUT...?

- ☐ Company/Business-Unit, Entrants and Supporters Information

HAVE YOU INCLUDED ON SEPARATE PAGES...?

- ☐ Nominated Organization
- ☐ Nominated System
- ☐ Business Impact
- ☐ Return on Investment

HAVE BOTH ENTRANTS SIGNED AND DATED...?

- ☐ Truth of Information/Release

HAVE YOU CHECKED OFF...?

- ☐ Other Editorial Opportunities
- ☐ How you learned about the Enterprise Value Awards program?

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Jeffrey Otten
CEO

GENSYM CORP.

Troy A. Heindel
CIO & Vice President, Support Services

Lowell Hawkinson
Chairman & CEO

MCDONNELL DOUGLAS HELICOPTER SYSTEMS

Andrew Miller
Director, Information Technology

William R. Ringer
Business Development Representative

ROCKWELL INTERNATIONAL CORP. SPACE SYSTEMS DIVISION

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Division Director, Information Management

R. M. Glaysher
Vice President & General Manager

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CIO & Senior Vice President

Anthony M. Schiavo
Chairman & CEO

UNITED HEALTHCARE CORP.

James P. Bradley
former CIO

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CIO

Kathy Walstead-Plumb
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A Hire Standard

When Stratus Computer discovered that its staffing metrics lagged behind the competition, the company turned to client/server technology

Speed and efficiency in human resources are just as important for achieving competitive advantage as they are in manufacturing or product development. That is particularly true in the rough-and-tumble world of high tech, where demand for skilled employees often outstrips supply. In 1993, Elliot Wells, an HR IS manager for Stratus Computer Inc. in Marlboro, Mass., received a clear sign that it was time for a change when a benchmarking survey revealed that Stratus' staffing metrics were way out of line. In response, Wells helped implement a client/server-based staffing system that now saves the company time and money.

According to the survey, Stratus had healthy metrics for compensation, benefits and turnover, but there was a clear problem when it came to staffing. Not only was each hire costing Stratus \$10,000, but the company's hiring cycle of 60 days ran well past the industry average of 47. For Stratus, a provider of continuously available computer systems, that was especially bad news. "[Qualified personnel] are so scarce and are on the job market for such a short period of time—the idea is to beat your competition to the punch," says Wells. In response to the news, John Young, Stratus' vice president of HR, charged Wells with putting together a task force to figure out the problem.

At the time, Stratus was decentralized. The company's four divisions had separate staffing functions, and each advertised and collected resumes for its own positions; there was no communication among them and no ability to share. Divisions even competed for the same applicants. Generalists responsible for both employee relations and recruiting were constantly overloaded, and HR often resorted to employment agencies as a result. That expensive option was all the more attractive given the divisions' slow, paper-based hiring process. All resumes came in through the mail and landed on administrators' desks. The administrators first put basic applicant information into a database so acknowledgment cards could be sent out, but backlogs inevitably occurred as stacks of resumes piled up. Meanwhile, recruiters made multiple copies of backlogged resumes so they could begin reviewing and manually coding them according to the applicants' skills. Finally, recruiters used "sneakernet" to route copies of promising resumes to managers. Recruiters then filed the remaining resumes according to their own subjective coding schemes.

Wells' task force concluded that the only solution was to centralize staffing, reengineer the process and implement some sort of technology to support the new model. In March 1994 they selected Restrac Hire, a Windows-based client/server staffing sys-

tem from Restrac Inc. Implementation was completed in July.

Today, Stratus has applicants submit resumes via fax or mail to the corporate HR office; roughly 30 percent use fax, and a dedicated fax line feeds directly into Restrac. An administrator scans resumes sent by mail into the system and then uses Restrac's optical character recognition software to convert all resumes from image files to text. The resumes are indexed and saved in a central database.

Recruiters anywhere can now search the central repository using relevant keywords. Each search considers all resumes in the database and generates a list ranking the most qualified candidates. Searching takes just seconds, and recruiters can fax or e-mail resumes of promising prospects to managers.

Thanks to the new process and technology, Stratus' hiring cycle is now 46 days; cost per hire has been slashed from \$10,000 to roughly \$7,500, primarily as a result of reduced agency fees and advertising costs. For a company that receives about 10,000 resumes for the 500 or so employees it hires each year, that adds up.

—Katherine Auer

Katherine Auer is a freelance writer and editor based in Bloomington, Ind.

VITAL STATISTICS

Organization: Stratus Computer Inc., Marlboro, Mass.

Application: Client/server staffing system

Sponsors: John Young, vice president of HR, and Elliot Wells, HR IS manager

Technologies: Restrac Hire 2.0; Fujitsu Networks Industry Inc. 3097G series scanner; NEC Technologies Inc. PowerMate 486 and Intel Corp. Pentium PCs; Novell Inc. NetWare server; Sybase Inc. database on Stratus mainframe

Scope: Eight staffing users and unlimited access for managers

Objective: To speed up the hiring cycle and reduce cost per hire

Payoff: Hiring cycle cut from 60 days to 46; cost per hire cut from \$10,000 to \$7,500 (not including relocations); ability to search entire resume pool added

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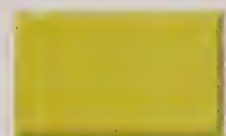
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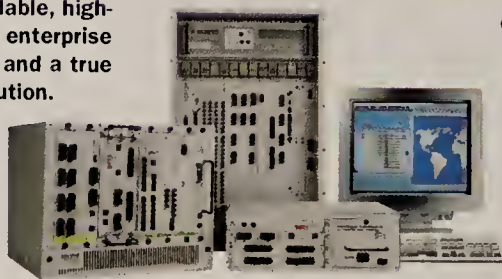
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